ORDER NO. MD9603016C1
A6

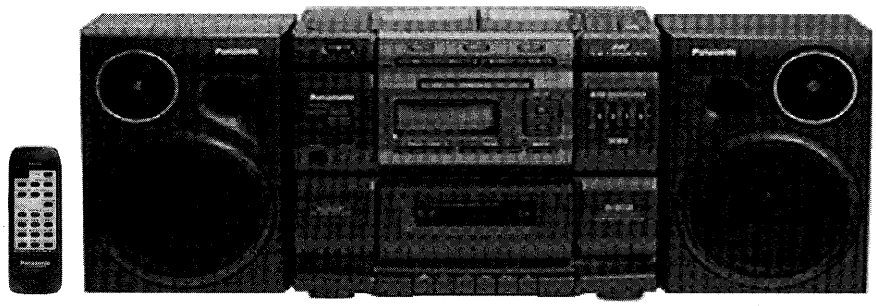
Service Manual

COMPACT disc DIGITAL AUDIO

MASH*
multi-stage noise shaping

Portable Stereo Component CD System

RX-DS750



Colour

(K) ... Black Type

Area

Suffix for Model No.	Area	Colour
(P)	U.S.A.	(K)
(PC)	Canada	

* MASH is a trademark of NTT.

TAPE SECTION : SG20 MECHANISM SERIES
CD SECTION : RAE0150Z TRAVERSE DECK SERIES

■ Specifications

■RADIO

Frequency range	
FM	87.9 – 107.9 MHz (200 kHz steps) 87.5 – 108.0 MHz (100 kHz steps)
AM	520 – 1710 kHz (10 kHz steps)
Intermediate Frequency	
FM	10.7 MHz
AM	450 kHz
Sensitivity	
FM	16 dB/50 mW
AM	53 dB/m/50 mW

■TAPE RECORDER

Track system	4 track, 2 channel, stereo
Recording system	AC bias
Erasing system	Magnet (Multi pole)
Monitor system	Variable sound monitor
Frequency range(Normal position)	50 – 13,000 Hz

■CD PLAYER

Sampling frequency	44.1 kHz
Decoding	16 bit linear
Beam source	Semiconductor laser (wavelength; 780 nm)
No. of channels	2 channel, stereo
Frequency Response	20 Hz – 20 kHz(+1, –1 dB)
S/N ratio	78 dB
Wow and flutter	Less than possible measurement data
D/A converter	MASH (1 bit DAC)

■GENERAL

Power requirement	
AC	120 V, 60 Hz Power consumption: 35 W
Battery	12V (Eight "D" size, R20/LR20 batteries)
Memory back-up for computer	6V (Four "AA" size, R6/LR6 batteries)
Speakers	12 cm (4 3/4" x 2 (Full range Woofers)) 1.5 cm (5/8" x 2 (Tweeters))
Jacks	
Output	Speaker; 2.7 – 8 Ω (Woofers) Headphones; 32 Ω
Dimensions (W x H x D)	658 x 264 x 261.2 mm (25 7/8" x 10 3/8" x 10 5/16") Main unit; 317 x 254 x 261.2 mm (12 1/2" x 10" x 10 5/16") Speaker box; 170.5 x 254 x 197.2 mm (6 11/16" x 10" x 7 3/4")
Weight	6.6 kg (16 lb. 8 oz.) without batteries

Notes :
Specifications are subject to change without notice.
Weight and dimensions are approximate.

⚠ WARNING

This service information is designed for experiense repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

Panasonic®

© 1996 Matsushita Electronics (S) Pte. Ltd.
All rights reserved. Unauthorized copying and distribution is a violation of law.

Contents

■ Contents

	Page
SAFETY PRECAUTIONS	2
PRECAUTION OF LASER DIODE	2
HANDLING PRECAUTIONS FOR TRAVERSE DECK	2
OPERATION CHECKS AND MAIN COMPONENT REPLACEMENT	3 ~ 8
SELF-DIAGNOSTIC DISPLAY FUNCTION	9 ~ 10
MEASUREMENTS AND ADJUSTMENTS	10 ~ 11
TERMINAL FUNCTION OF ICs	12 ~ 14
TERMINAL GUIDE OF ICs, TRANSISTORS AND DIODES	15
WIRING CONNECTION DIAGRAM	16
TROUBLESHOOTING GUIDE	17
PRINTED CIRCUIT BOARD	18 ~ 21
SCHEMATIC DIAGRAM	22 ~ 32
MECHANISM PARTS LIST	33
CD LOADING UNIT PARTS LIST	33
CD LOADING UNIT PARTS LOCATION	34 ~ 35
MECHANISM PARTS LOCATION (RAA0919)	36
CABINET PARTS LOCATION	37
REPLACEMENT PARTS LIST	38 ~ 40
RESISTORS & CAPACITORS	41 ~ 43

■ Safety Precautions (This "Safety Precaution" is applied only in U.S.A.)

1. Before servicing, unplug the power cord to prevent an electric shock .
2. When replacing parts, use only manufacturer's recommended components for safety .
3. Check the condition of the power cord .Replace if wear or damage is evident .
4. After servicing ,be sure to restore the lead dress, insulation barriers ,insulation papers ,shields ,etc .
5. Before returning the serviced equipment to the customer, be sure to make the following insulation resistance test to prevent the customer from being exposed to a shock hazard .

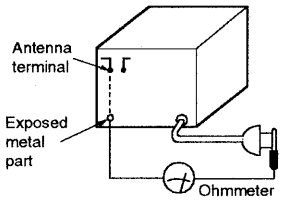


Fig. 1

Resistance = 3MΩ – 5.2MΩ

• Insulation Resistance Test

1. Unplug the power cord and short the two prongs of the plug with a jumper wire .
2. Turn on the power switch .
3. Measure the resistance value with ohmmeter between the jumper AC plug and each exposed metal cabinet part ,such as screwheads, antenna ,control shafts ,handle brackets , etc . Equipment with antenna terminals should read between 3MΩ and 5.2MΩ to all exposed parts* .(Fig. 1) Equipment without antenna terminals should read approximately infinity to all exposed parts . (Fig. 2)
   *Note :Some exposed parts may be isolated from the chassis by design. These will read infinity .
4. If the measurement is outside the specified limits ,there is a possibility of a shock hazard .The equipment should be repaired and rechecked before it is returned to the customer .

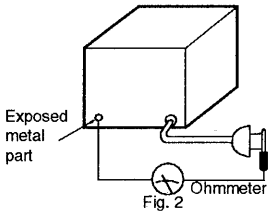


Fig. 2

Resistance = Approx ∞

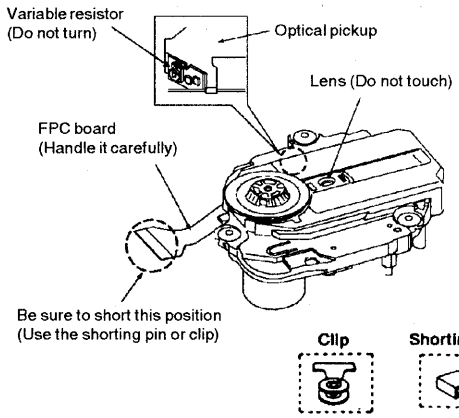
■ Precaution of Laser Diode

CAUTION: This unit utilizes a class 1 laser. Invisible laser radiation is emitted from the optical pick up lens.
When the unit is turned on :

1. Do not look directly into the pick up lens.
2. Do not use optical insturments to look at the pick up lens.
3. Do not adjust the preset variable resistor on the pick up lens.
4. Do not disassemble the optical pick up unit.
5. If the optical pick up is replaced, use the manufacturer's specified replacement pick up only.
6. Use of control or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

■ Handling Precautions for Traverse Deck

The laser diode in the traverse deck (optical pickup) may break down due to potential difference caused by static electricity of clothes or human body.
So, be careful of electrostatic breakdown during repair of the traverse deck (optical pickup).


Variable resistor (Do not turn)
Optical pickup
Lens (Do not touch)
FPC board (Handle it carefully)
Be sure to short this position (Use the shorting pin or clip)
Clip
Shorting pin

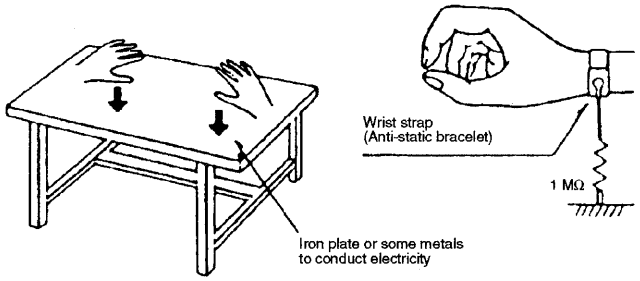
- **Handling of traverse deck (optical pickup)**

1. Do not subject the traverse deck (optical pickup) to static electricity as it is extremely sensitive to electrical shock.
2. To prevent the breakdown of the laser diode, an antistatic shorting pin is inserted into the flexible board (FPC board). When removing or connecting the short pin, finish the job in as short time as possible.
3. Take care not to apply excessive stress to the flexible board (FPC board).
4. Do not turn the variable resistor (laser power adjustment). It has already been adjusted.

- **Grounding for electrostatic breakdown prevention**

1. Human body grounding
   Use the anti-static wrist strap to discharge the static electricity from your body.
2. Work table grounding
   Put a conductive material (sheet) or steel sheet on the area where the traverse deck (optical pickup) is placed, and ground the sheet.

Caution :
The static electricity of your clothes will not be grounded through the wrist strap. So, take care not to let your clothes touch the traverse deck (optical pickup).



■ Operation Checks and Main Component Replacement Procedures

1. **This section describes procedures for checking the operation of the major printed circuit boards and replacing the main components.**
2. **For reassembly after operation checks or replacement, reverse the respective procedures. Special reassembly procedures are described only when required.**
3. **Select items from the following index when checks or replacement are required.**
4. **Refer the Parts No. on the page of "Main Component Replacement Procedures", if necessary.**

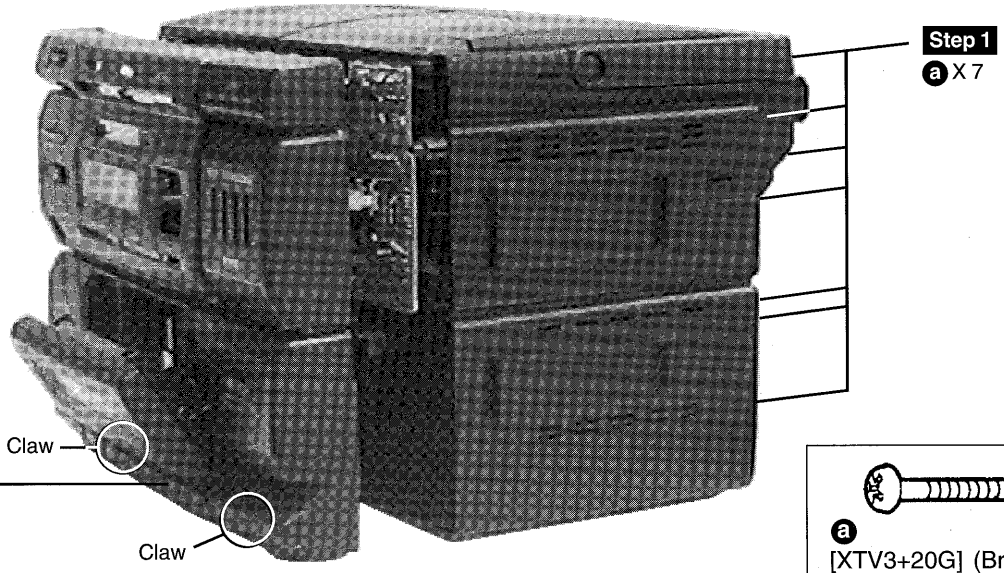
• Contents

page

- **Disassembly Procedures**
  1. Disassembly of the Front Cabinet 3
  2. Removal of the CD Changer Unit 4
  3. Disassembly of the Traverse Unit 4
  4. Disassembly of the CD Changer Unit 5
- **Assembly of the CD Changer Unit** 6
- **Checking Procedure for each major P.C.B.**
  1. Checking for the Servo P.C.B. 7
  2. Checking of the Panel P.C.B. and Main P.C.B. 7
- **Main Component Replacement Procedures**
  1. Replacement of the Traverse Deck 8
  2. Replacement of the Power Amplifier IC and Regulator Transistor 8

Warning : This product uses a laser diode. Refer to caution statements on page 2.

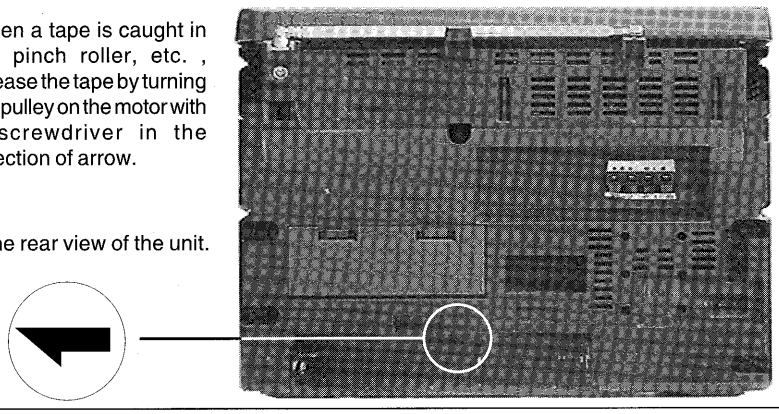
■ Disassembly of the Front Cabinet



■ What to do when the tape is entangled

When a tape is caught in the pinch roller, etc. , release the tape by turning the pulley on the motor with a screwdriver in the direction of arrow.

The rear view of the unit.

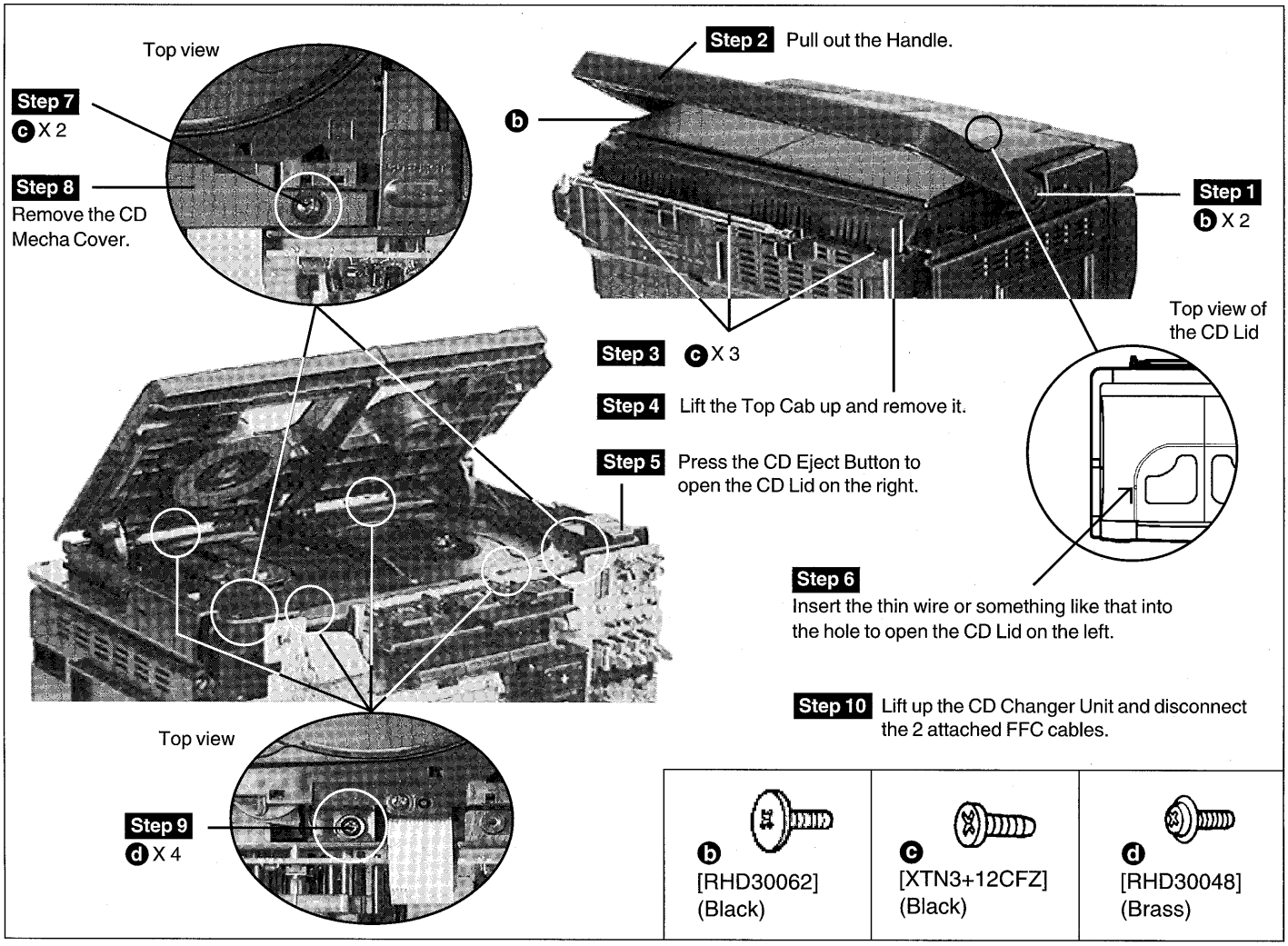


BATTERY SERVICE LIFE

UM–1 (D-size) Batteries
Approx. 4 3/4 hours of CD recording (EIAJ).
Approx. 4 1/2 hours of CD playback (EIAJ).
Approx. 11 1/2 hours of tape recording (EIAJ).
Approx. 8 hours of tape playback (EIAJ).

The above battery service life is measured according to the conditions set forth by EIAJ (Electronic Industries Association of Japan). As the battery service life varies with the method of operation and enviromental conditions, use these values as reference.

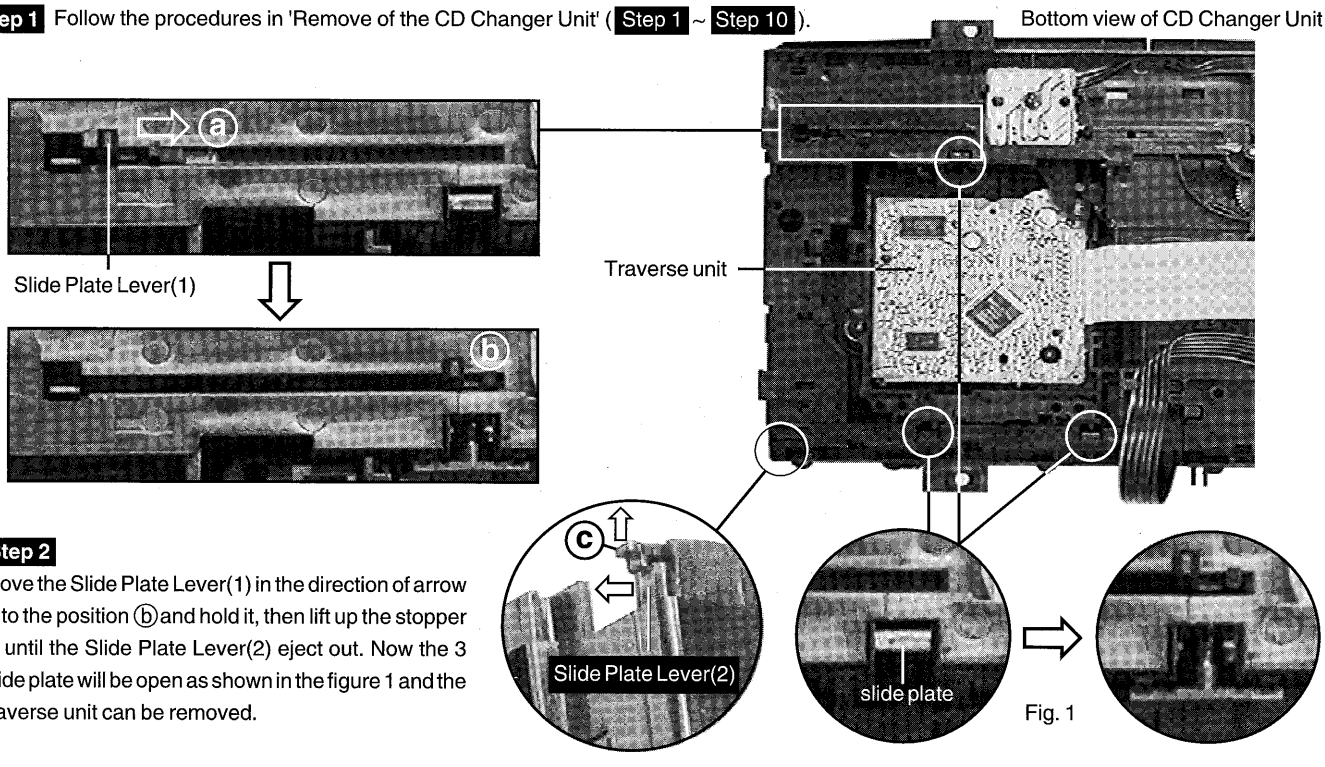
■ Remove of the CD Changer Unit


Top view
Step 7
c X 2
Step 8
Remove the CD Mecha Cover.
Step 2 Pull out the Handle.
b
Step 1
b X 2
Top view of the CD Lid
Step 3 c X 3
Step 4 Lift the Top Cab up and remove it.
Step 5 Press the CD Eject Button to open the CD Lid on the right.
Step 6
Insert the thin wire or something like that into the hole to open the CD Lid on the left.
Step 10 Lift up the CD Changer Unit and disconnect the 2 attached FFC cables.
Top view
Step 9
d X 4

b	c	d
[RHD30062] (Black)	[XTN3+12CFZ] (Black)	[RHD30048] (Brass)

■ Disassembly of the Traverse Unit

Step 1 Follow the procedures in 'Remove of the CD Changer Unit' (**Step 1** ~ **Step 10**).



Step 2

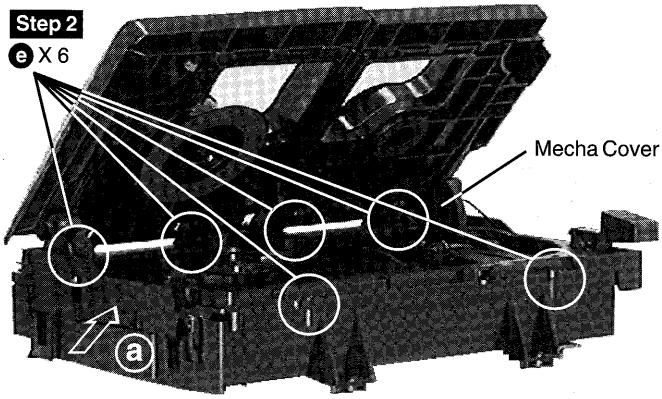
Move the Slide Plate Lever(1) in the direction of arrow ⓐ to the position ⓑ and hold it, then lift up the stopper ⓒ until the Slide Plate Lever(2) eject out. Now the 3 slide plate will be open as shown in the figure 1 and the traverse unit can be removed.

Fig. 1

■ Disassembly of the CD Changer Unit

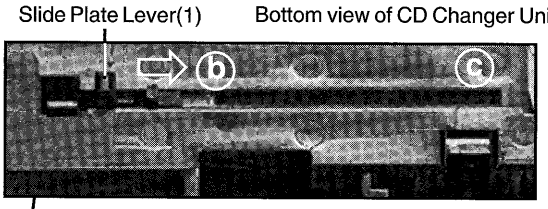
Step 1 Follow the procedures in 'Remove of the CD Changer Unit' (**Step 1** ~ **Step 10**).

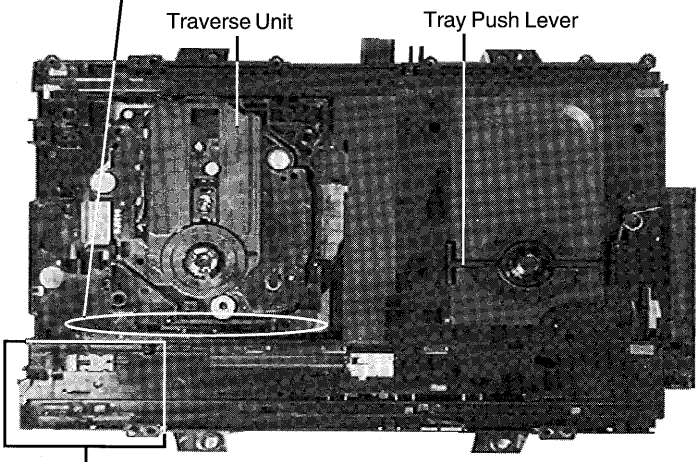
Step 2
ⓔ X 6



Step 3
Press in the direction of arrow ⓐ and then pull out the Mecha Cover Ass'y.

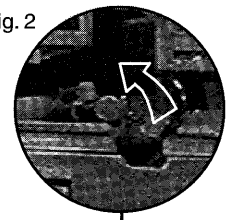
Step 4
Move the Slide Plate Lever(1) in the direction of arrow ⓑ to the position ⓒ until the Traverse Unit move down, then remove the Tray Push Lever.

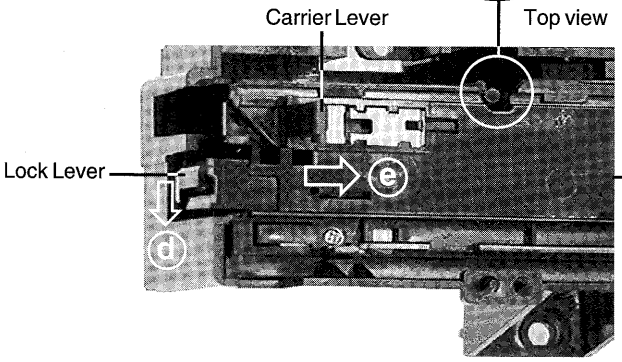




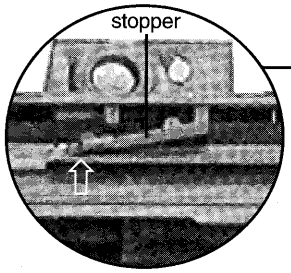
Step 5
Press the Lock Lever in the direction of arrow ⓓ until the other end of Lock Lever move out as shown in the figure 2.

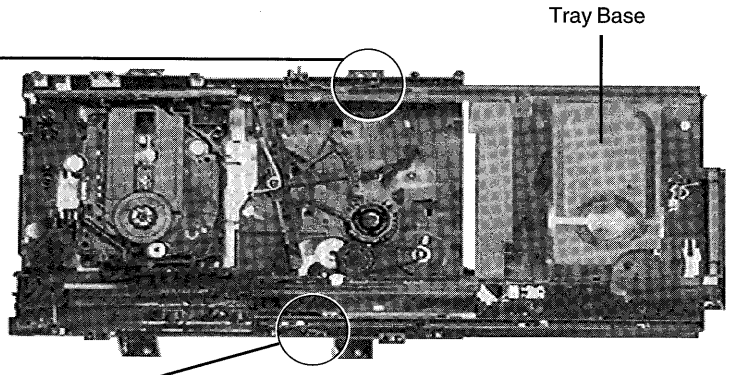
Fig. 2

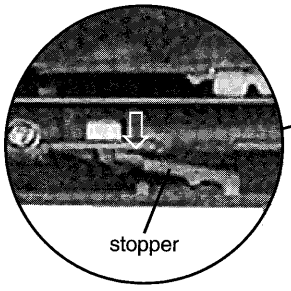




Step 6
Press the Carrier Lever in the direction of arrow ⓔ until the Tray Base move out as shown in the diagram below.







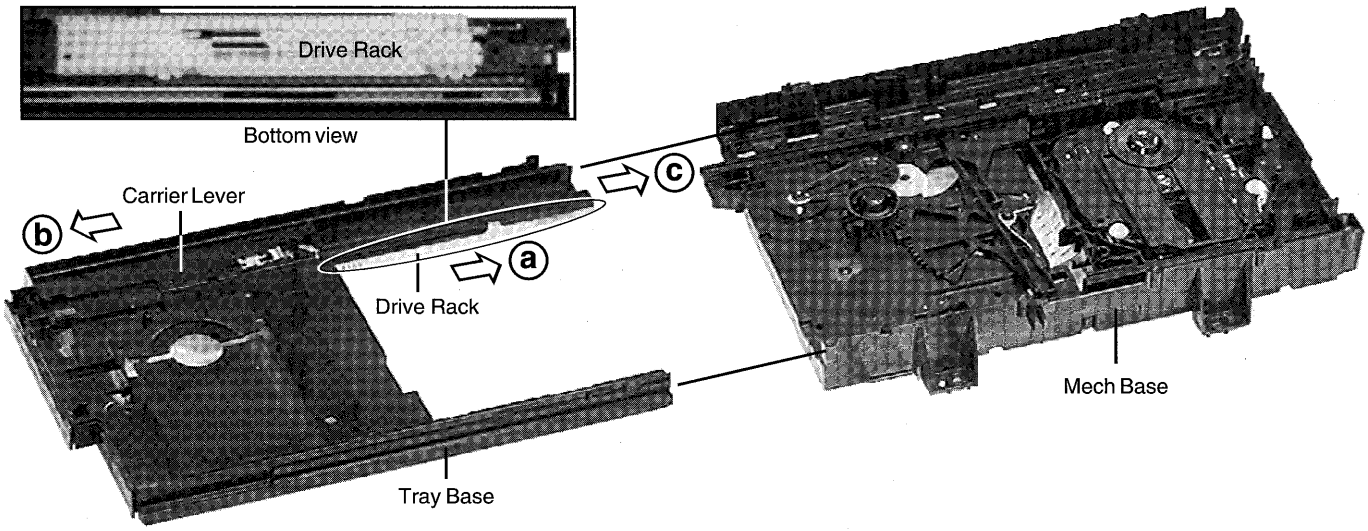
Step 7
Release the 2 stoppers by hands and pull out the Tray Base in the direction of arrow ⓕ.

ⓔ [XTB3+10JFZ] (Black)

■ Assembly of the CD Changer Unit

Step 1

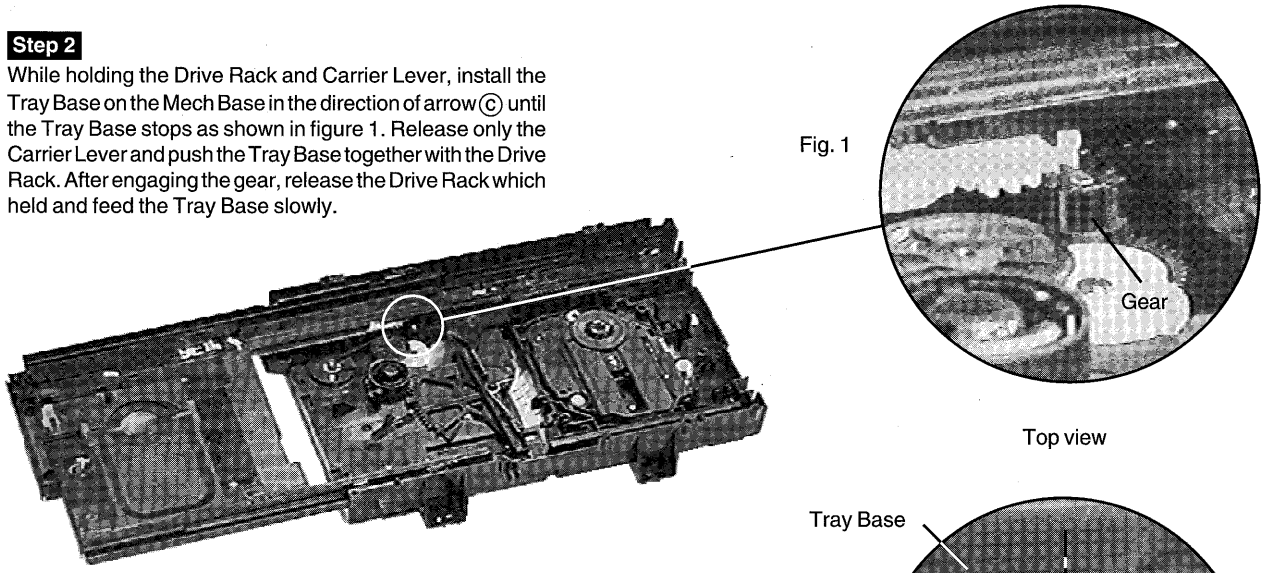
Move the Drive Rack in the direction of arrow ⓐ to the position as shown in the diagram below and the Carrier Lever in the direction of arrow ⓑ.



Step 2

While holding the Drive Rack and Carrier Lever, install the Tray Base on the Mech Base in the direction of arrow ⓒ until the Tray Base stops as shown in figure 1. Release only the Carrier Lever and push the Tray Base together with the Drive Rack. After engaging the gear, release the Drive Rack which held and feed the Tray Base slowly.

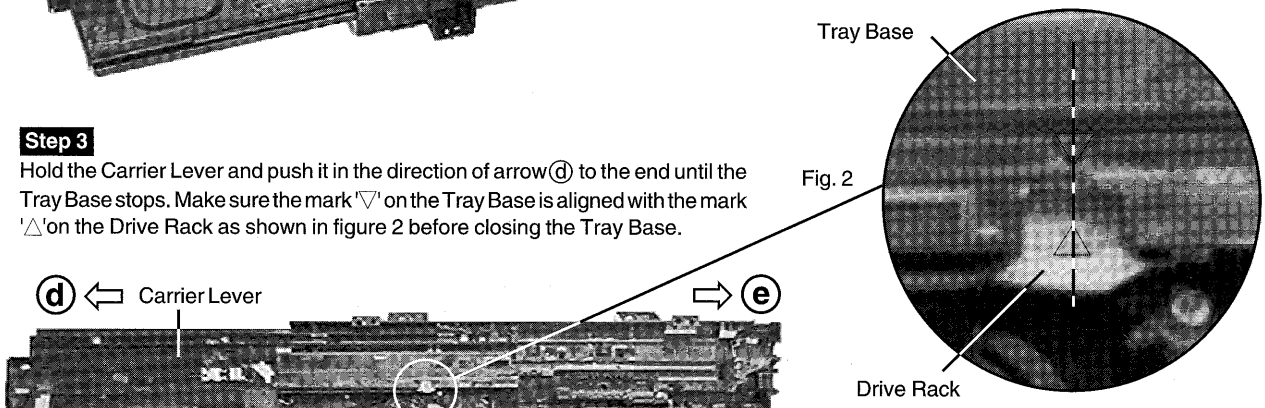
Fig. 1

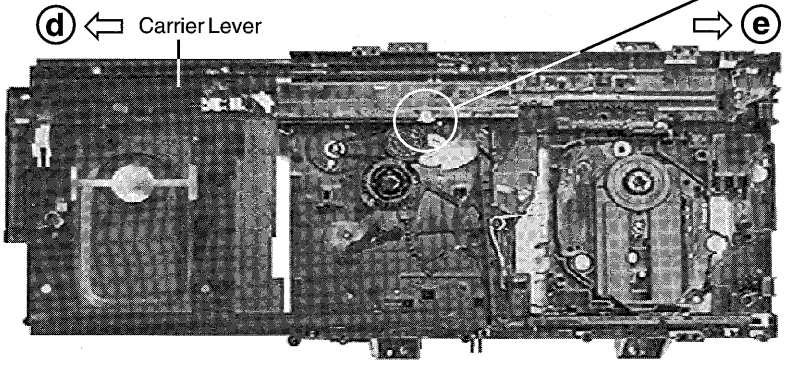


Step 3

Hold the Carrier Lever and push it in the direction of arrow ⓓ to the end until the Tray Base stops. Make sure the mark '▽' on the Tray Base is aligned with the mark '△' on the Drive Rack as shown in figure 2 before closing the Tray Base.

Fig. 2





Step 4

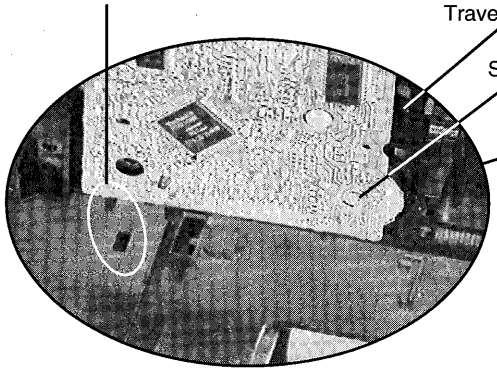
After closing the Tray Base, slide the Carrier Lever in the direction of arrow ⓔ until it reaches the end of the Tray Base.

■ Checking Procedure for each major P.C.B.

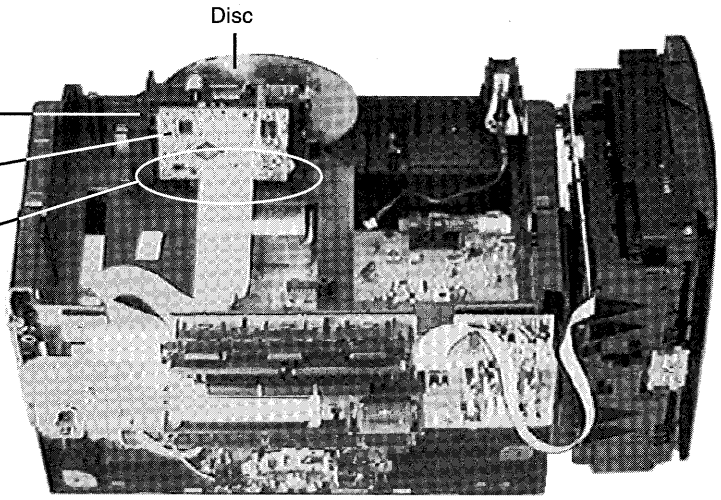
1. Checking of the Servo P.C.B.

Step 1 Follow the procedures in 'Disassembly of the Traverse Unit' (Step 1 ~ Step 2).

Step 2
Slide in the Traverse Unit into a slot on the top of the Rear Cabinet.

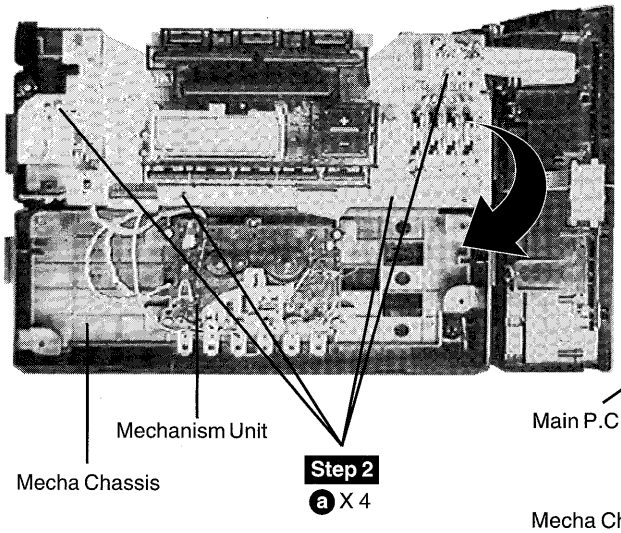


Step 3
Attach the disc and clamper with magnet to the Traverse unit as shown in the diagram below, then check the Servo P.C.B.

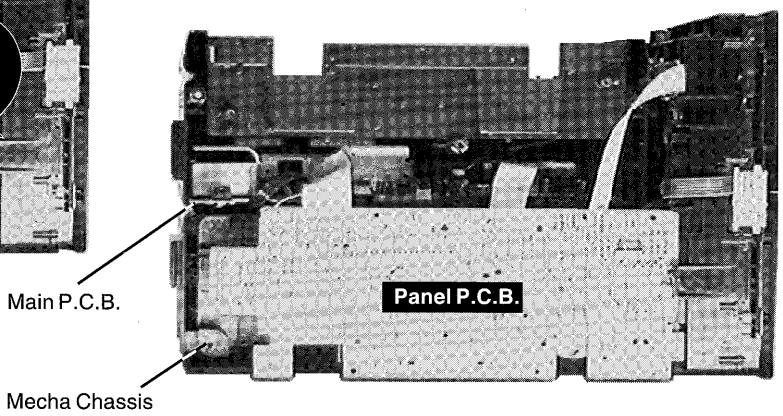


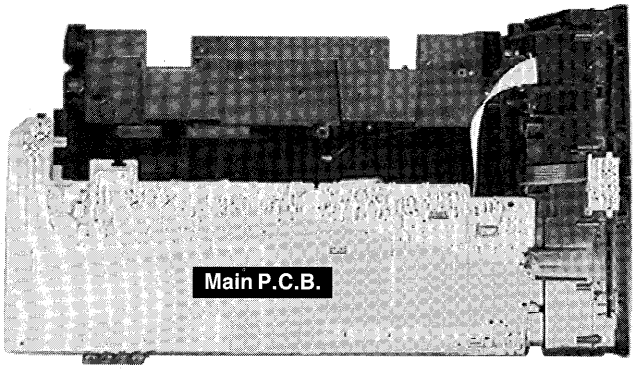
2. Checking of the Panel P.C.B. and Main P.C.B.

Step 1 Follow the procedures in 'Disassembly of the Front Cabinet' and 'Remove of the CD Changer Unit' .

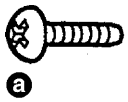


Step 3
Pull down and check Panel P.C.B. as shown below.





Step 4
Pull out the Mecha Chassis with Mechanism Unit on it and Main P.C.B together. Position and check Main P.C.B. as shown on the left.

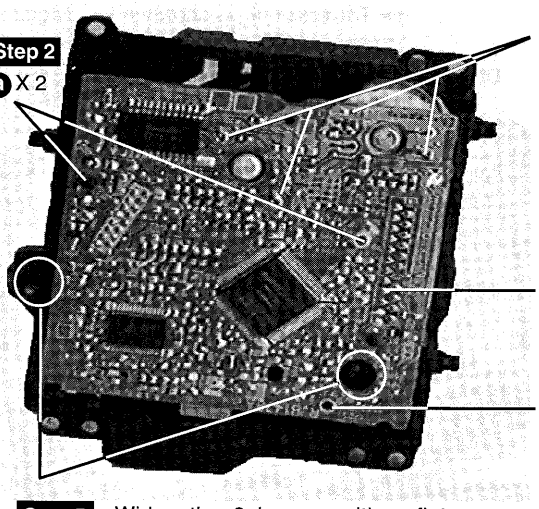


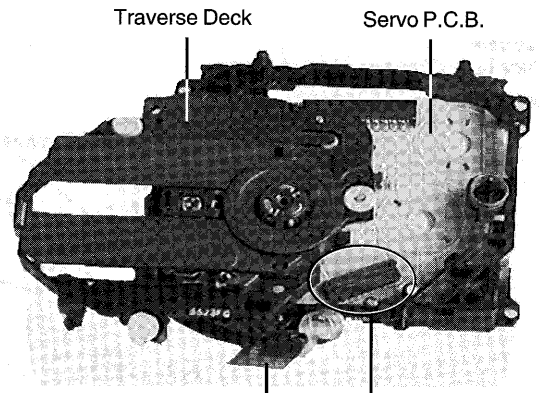
ⓐ
[XTV3+12G] (Brass)

■ Main Component Replacement Procedures

1. Replacement of the Traverse Deck

Step 1 Follow the procedures in 'Disassembly of the Traverse Unit' (**Step 1** ~ **Step 2**).

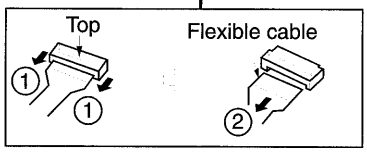


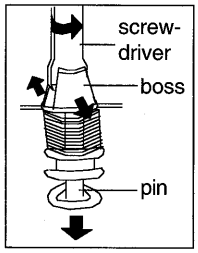


Step 6 Remove the flexible cable CN701.

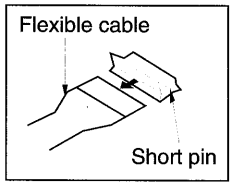
Step 5 Widen the 2 bosses with a flat screwdriver and pull out the 2 pins. Then remove the Traverse Deck.

- Removal of the flexible cable
  Push the top of the connector in the direction of the arrow ①, and then pull out the flexible cable in the direction of the arrow ②.





Note :
Insert a short pin into the flexible cable for traverse unit.

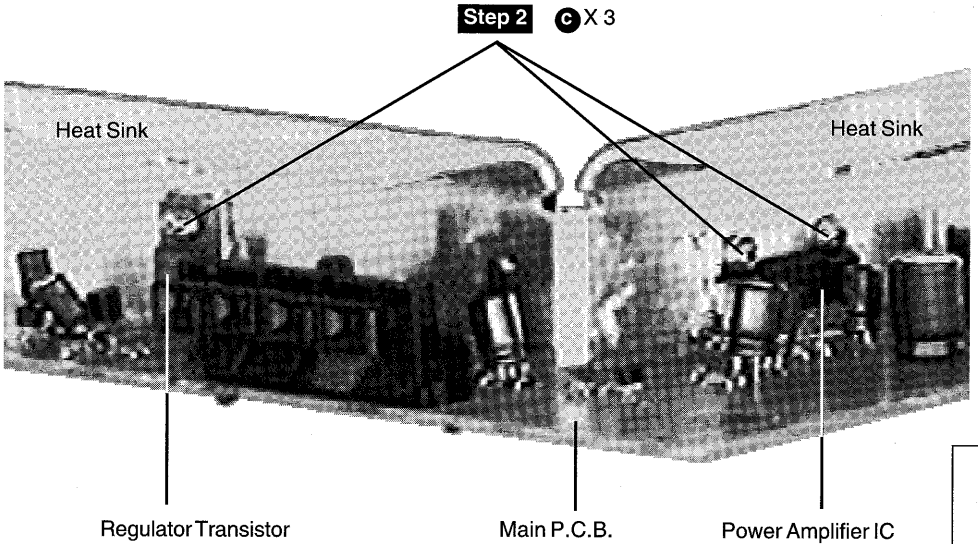


a [XTV2+6G] (Brass)

b [XTN2+6G] (Brass)

2. Replacement of the Power Amplifier IC and Regulator Transistor

Step 1
Disassemble the Front Cabinet, Panel P.C.B., Mecha Chassis and pull out the Main P.C.B.



c [XTV3+8F] (Brass)

■ Self-Diagnostic Display Function

■ Self-diagnostic display

This unit is equipped with a self-diagnosis display function which, if a problem occurs, will display an error code corresponding to the problem. Use this function when performing maintenance on the unit.

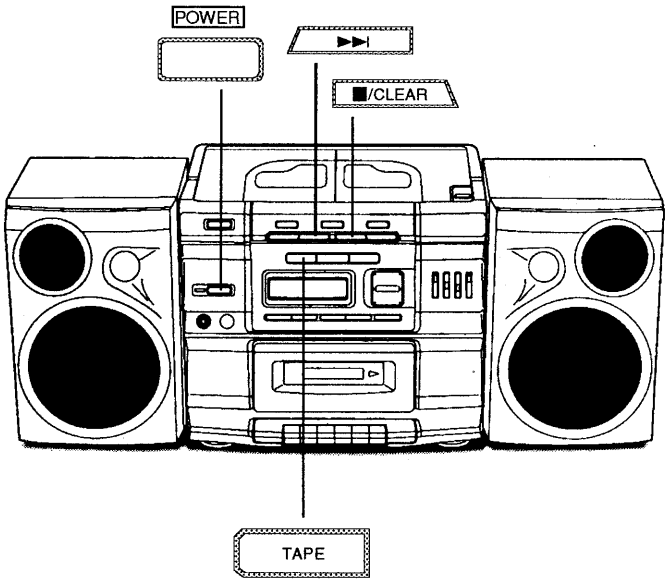
■ How to enter the Self-Diagnostic Function

POWER — Turn the unit on with no cassette in the deck. (SELECTOR : TAPE)

■/CLEAR — Press and hold the "■/CLEAR" button for at least 2 seconds.

■/CLEAR, ▶▶I — While pressing the "■ /CLEAR" button, press "▶▶I" button for at least 2 seconds.

Display (T) — "T" will appear on the FL display. (unit is in the Self-Diagnostic Function.)



■ CD / CD Changer Self-Diagnostic Function mode

Press "TAPE" button while the unit is in the Self-Diagnostic Function mode.

■ To Display Self-Diagnostic Result

1. Press "TAPE" button.
   *If several problem exist, error code will change each time when "TAPE" button is pressed.
   (e.g. F15 → F26 → F28 ..... etc)
   *If no problem, "T" will remain unchanged.

■ To clear all Error code

1. Press "TAPE" button for 5 seconds.
2. FL indicator shows "CLEAR" for 1 second and change to "T".

■ How to get out from Self-Diagnostic function

1. Press "POWER" button OFF.

(1) Error detection for CD/CHANGER block

No.	Error	Error Display	Problem condition
1	REST SW detection error	F15	CD does not function. This error occurs when the Optical Pick Up REST SW (S701) is not detected within the specified time (about 8 seconds)
2	SW1 (STK), SW2 (PLY) detection error	F28	CD loading mechanism does not move correctly. This error occurs when SW1 (stocker position detection) is not ON or OFF, or SW2 (play position detection) is not ON or OFF within the specified time.
3	SW3 (LID) detection error	F25	CD does not operate correctly. This error occurs when SW3 (CD Traverse Lid switch) is not ON or OFF within the specified time.
4	SW5 (TNO) detection error	F27	Tray number does not detect correctly. This error occurs when SW5 (Tray number detection) can not be detected normally or when the TRAY No. is uncertain.
5	Transmission error between CD servo LSI and micon	F26	CD does not function. This error occurs when the POWER is ON for the CD block and an error is detected after the transmission has started.
6	CD power error	F75	CD does not function. Check if CDRST is H for SELECTOR at CD. If it is not H after 1 second, it shall be memorised as an error.
7	Batteries consumption check error	U01	It is due to consumption of batteries. Replace the batteries with new one.
8	Power supply check error	U02	Check the power plug (AC) or insert the batteries (DC).

■ Alignment Points

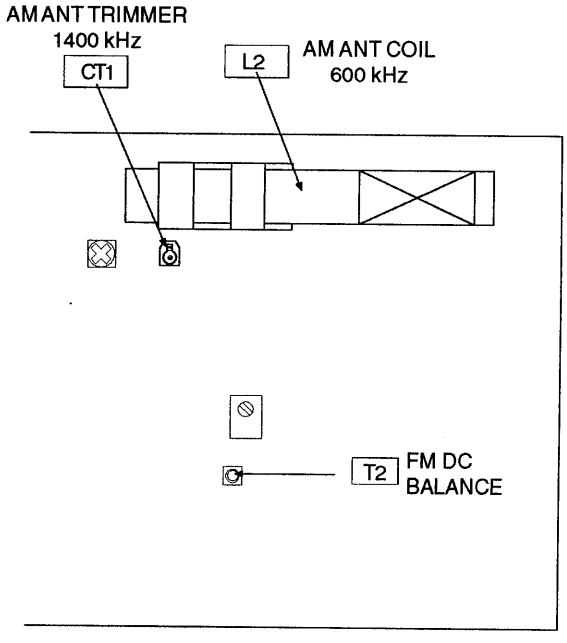


Fig. 1

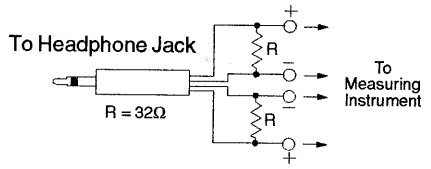


Fig. 2

■ Measurements and Adjustments

< TUNER SECTION >

■ ALIGNMENT INSTRUCTIONS

READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT	
1. Set volume control to maximum. 2. Set XBS level control to minimum. 3. Set power source voltage to 12V DC.	4. Set GEQ controls to center. 5. Output of signal generator should be no higher than necessary to obtain an output reading.

■ AM-IF ALIGNMENT

SIGNAL GENERATOR or SWEEP GENERATOR		RADIO DIAL SETTING	INDICATOR (ELECTRONIC VOLTMETER or OSCILLOSCOPE)	ADJUSTMENT (Shown in Fig. 1)	REMARKS
CONNECTIONS	FREQUENCY				
Fashion a loop of several turns of wire and radiate a signal into the loop ant. of receiver.	450 kHz 30% Mod. at 400Hz	Point of non-interference. (on/about 600Hz)	Headphones Jack (32Ω) (Fabricate the plug as shown in Fig. 2 and then connect the lead wires of the plug to the measuring instrument.)	T2 (AM IFT)	Adjust for maximum output.

■ AM-RF ALIGNMENT

Fashion a loop of several turns of wire and radiate a signal into the loop ant. of receiver.	600 kHz	Tune to signal	〃	(*1) L2(AM ANT Coil)	Adjust for maximum output. Adjust L2 by moving coil along the ferrite core.
〃	1,400 kHz	〃	〃	CT1 (AM ANT Trimmer)	Adjust for maximum output.
(*1) Fix antenna coil with wax after completing alignment.					

■ FM DC BALANCE ALIGNMENT & "ZERO" VOLTAGE ALIGNMENT

SIGNAL GENERATOR or SWEEP GENERATOR	EQUIPMENT CONNECTION ELECTRONIC COUNTER	ADJUSTMENT (Shown in Fig. 1)	SPECIFICATION	REMARKS
98.1 MHz, 60 dB(CW) connect to test point TP1 through FM dummy antenna. Negative side to TP2.	TP6 ... (+) TP7 ... (–)	T2	0 ± 50mV	Align coil T2 for "ZERO" voltage to be in the range of 0 ± 50mV

< CASSETTE DECK SECTION >

■ ALIGNMENT INSTRUCTIONS

READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT
Note : No Azimuth Head Alignment is required due to Aztec Head is used in the cassette mechanism.

■ Terminal Function of ICs

• IC701 (AN8835SBE1) Servo Amplifier

Pin No.	Mark	I/O	Function
1	PDA	I	PD signal input
2	PDB	I	PD signal input
3	VCC	I	Power supply connection
4	LPD	I	Laser PD connection
5	LD	O	Power out for LD driving
6	RF	O	RF signal output
7	RFIN	I	RF signal input
8	CAGC	I	AGC loop filter connection
9	ARF	O	RF-AGC output
10	CSBRT	I	Capacitor for detection connection
11	CEA	I	Capacitor connection for HPF amplifier
12	BDO	O	BDO output ("H" : drop out)
13	LDON	I	LD APC input ("H" : ON, "L" : OFF)
14	GND	—	Ground connection

Pin No.	Mark	I/O	Function
15	/RFDET	O	NRFDET output ("L" : detection)
16	CROSS	O	CROSS output (Track cross signal output)
17	OFTR	O	Off-track output("L" : ON track, "H" : OFF track)
18	VDET	O	VDET output("H" : Vibration detected)
19	ENV	O	RF envelope detection
20	TEBPF	I	Vibration detection signal input
21	CCRS	I	Capacitor for LPF connection
22	TE	O	Tracking error signal output
23	FE	O	Focus error signal output
24	TBAL	I	Tracking balance signal input
25	FBAL	I	Focus balance signal input
26	VREF	O	Reference voltage output
27	PDE	I	PD signal input
28	PDF	I	PD signal input

• IC703 (AN8389SE1) Focus coil / Tracking coil / Traverse motor / Spindle motor driver

Pin No.	Mark	I/O	Function
1	VCC	I	Power supply terminal
2	VREF	I	Reference voltage input
3	IN4	I	Motor driver (4) input
4	IN3	I	Motor driver (3) input
5	GND	—	Ground connection
6	NC	—	Ground connection
7	NRESET	I	Reset input
8	GND	—	Ground connection
9	IN2	I	Motor driver (2) input
10	PC2	I	PC2 (power cut) input
11	IN1	I	Motor driver (1) input
12	PC1	I	PC1 (power cut) input (Not used, open)

Pin No.	Mark	I/O	Function
13	PVCC1	I	Power supply (1) for driver
14	PGND1	—	Ground connection (1) for driver
15	D1–	O	Motor driver (1) reverse-action output
16	D1+	O	Motor driver (1) forward-action output
17	D2–	O	Motor driver (2) reverse-action output
18	D2+	O	Motor driver (2) forward-action output
19	D3–	O	Motor driver (3) reverse-action output
20	D3+	O	Motor driver (3) forward-action output
21	D4–	O	Motor driver (4) reverse-action output
22	D4+	O	Motor driver (4) forward-action output
23	PGND2	—	Ground connection (2) for driver
24	PVCC2	I	Power supply (2) for driver

• IC702 (MN662741RPA) Servo processor / Digital signal processor / Digital filter / D/A converter

Pin No.	Mark	I/O	Function
1	BCLK	O	Serial bit clock terminal (Not used, open)
2	LRCK	O	L/R discriminating signal (Not used, open)
3	SRDATA	O	Serial data (Not used, open)
4	DVDD1	I	Power supply (digital circuit) terminal
5	DVSS1	—	GND (digital circuit) terminal
6	TX	O	Digital audio interface signal
7	MCLK	I	Microprocessor command clock signal
8	MDATA	I	Microprocessor command data signal
9	MLD	I	Microprocessor command load signal
10	SENSE	O	Sense signal output
			(OFT,FESL,MAGEND,NAJEND,POSAD,SFG)
11	/FLOCK	O	Optical servo condition(focus)("L" : lead-in)
12	/TLOCK	O	Optical servo condition(tracking)("L" : lead-in)
13	BLKCK	O	Sub-code block clock (f=75Hz)
14	SQCK	I	External clock signal input for sub-code Q
			register.
15	SUBQ	O	Sub-code Q code output
16	DMUTE	I	Muting input ("H" : mute)
17	STAT	O	Status signal output
			(CRC,CUE,CLVS,TTSTVP,FCLV,SQCK)
18	/RST	I	Reset input
19	SMCK	O	1/2-divided clock signal of crystal oscillating at
			MSEL = "H" (fSMCK=8.4672MHz)
			1/4-divided clock signal of crystal oscillating at
			MSEL="L" (fSMCK=4.2336MHz)
20	PMCK	O	1/192-divided clock signal of crystal oscillating
			(fPMCK=88.2kHz) (Not used, open)
21	TRV	O	Traverse servo control output
22	TVD	O	Traverse drive signal output
23	PC	O	Spindle motor ON signal output ("L" : ON)
24	ECM	O	Spindle motor drive signal output
			(forced mode output)
25	ECS	O	Spindle motor drive signal output
			(servo error signal output)
26	KICK	O	Kick pulse output
27	TRD	O	Tracking drive output
28	FOD	O	Focus drive output
29	VREF	I	D/A (drive) output (TVD,ECS,TRD,FOD,
			FBAL,TBAL) Reference voltage input.
30	FBAL	O	Focus balance adjustment output
			(Not used,open)
31	TBAL	O	Tracking balance adjustment output
32	FE	I	Focus error signal input (analog input)
33	TE	I	Tracking error signal input (analog input)
34	RFENV	I	RF envelope signal input
35	VDET	I	Vibration detection signal input ("H" : detection)

Pin No.	Mark	I/O	Function
36	OFT	I	Off-track signal input ("H" : off track)
37	TRCRS	I	Track cross signal input
38	/RFDET	I	RF detection signal input ("L" : detection)
39	BDO	I	Dropout signal input ("H" : Dropout)
40	LDON	O	Laser on signal output ("H" : ON)
41	TES	O	Tracking error shunt signal output ("H" : shunt)
42	PLAY	O	Play signal out ("H" : PLAY)
43	WVEL	O	Double speed status signal output ("H" : DS)
44	ARF	I	RF signal input
45	IREF	I	Reference current input
46	DRF	I	DSL bias (Not used, open)
47	DSLF	I/O	DSL loop filter
48	PLLF	I/O	PLL loop filter
49	VCOF	I/O	VCO loop filter (Not used, open)
50	AVDD2	I	Power supply input (for analog circuit)
51	AVSS2	—	GND (for analog circuit)
52	EFM	O	EFM signal output (Not used, open)
53	PCK	O	PLL extraction clock ouput (Not used, open)
			(fPCK=4.321 MHz during normal playback)
54	PDO	O	Phase comparison signal of EFM and PCK signals
			(Not used, open)
55	SUBC	O	Sub-code serial data output (Not used, open)
56	SBCK	I	Sub-code frame clock signal output
			(fCLDCK=7.35kHz during normal playback)
57	VSS	—	GND
58	X1	I	Crystal oscillating circuit input (f=16.9344MHz)
59	X2	O	Crystal oscillating circuit output (f=16.9344MHz)
60	VDD	I	Power supply input (for oscillating circuit)
61	BYTCK	O	Byte clock output (Not used, open)
62	/CLDCK	O	Clock input for sub-code serial data
			(Not used, open)
63	FCLK	O	Crystal frame clock signal output
			(fCLK=7.35kHz, double=14.7kHz)
64	PFLAG	O	Interpolation flag output ("H" : interpolation)
			(Not used, open)
65	FLAG	O	Flag output (Not used, open)
66	CLVS	O	Spindle servo phase synchronizing signal output
			("H" : CLV, "L" : rough servo) (Not used, open)
67	CRC	O	Sub-code CRC checked output
			("H" : OK, "L" : NG) (Not used, open)
68	DEMPH	O	De-emphasis ON signal output
			("H" : ON) (Not used, open)
69	RESY	O	Frame resynchronizing signal output
			(Not used, open)
70	/RST2	I	Reset input through MASH circuit ("L" : Reset)
71	/TEST	I	Test input

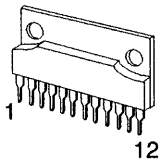
Pin No.	Mark	I/O	Function
72	AVDD1	I	Power supply input (for analog circuit)
73	OUTL	O	Left channel audio signal output
74	AVSS1	—	GND
75	OUTR	O	Right channel audio signal output
76	RSEL	I	RF signal polarity assignment input
			(at "H" level, RSEL="H", at "L" level, RESL="L")
77	CSEL	I	Crystal oscillating frequency designation input
			"L" : 16.9344MHz "H" : 33.8688MHz
78	PSEL	I	Test input (normally "L") (Not used, open)
79	MSEL	I	Output mode switching of SUBQ terminal
			("H" : Q code buffer mode)
80	SSEL	I	Output frequency switching for SMCK terminal
			"H" : SMCK=8.4672MHz
			"L" : MCK=4.2336MHz (Not used, open)

• IC801 (M38254M6125) System Microprocessor

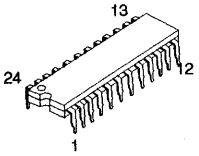
Pin No.	Mark	I/O	Function
1	NC	—	No connection
2	VL1	—	Power supply input for LCD
3	PWRCTRL	O	Power control output
4	PWDET	I	Power detection input
5	REGION	I	Area setting input
6	MOTOR	O	Motor control output
7	MTRSW	I	Motor switch input
8	RECH	I	Record high signal input
9	KEY2	I	KEY 2 input
10	KEY1	I	KEY 1 input
11	MCLK	O	CD signal processor clock output
12	MDATA	O	CD signal processor data output
13	MLD	O	CD signal processor load output
14	SD	I	PLL signal detect input
15	STEREO	I	PLL stereo detect input
16	MONO	O	PLL MONO output
17	RSTBY	I	Remote control standby input
18	RMT	I	Remote control sensor input
19	VCCDET	I	VCC detect input (main power detection)
20	SQCK	O	CD subcode clock output
21	PWR	I	Power ON/OFF key input
22	SUBQ	I	CD subcode Q data input
23	BLKCK	I	CD subcode block clock input
24	RESTSW	I	CD limit switch input
25	TLOCK	I	CD tracking lock input
26	FLOCK	I	CD focus lock input
27	SENSE	I	CD servo processor sense input
28	CDRST	O	CD reset output
29	TNO	I	CD tray number detect switch input (SW5)
30	STAT	I	CD signal processor status input
31	AFDA	O	Volume IC data output
32	AFCK	O	Volume IC clock output
33	RNDM	I	Random play operation selection.
			L = Play based on continue mode
			H = Any 3 disc can be played
34	VOL	I	Volume characteristic selection.
			L = Smaller attenuation steps
			H = Original attenuation steps
35	RESET	I	System reset input
36	XCIN	I	32.768 kHz sub clock
37	XCOUT	O	32.768 kHz sub clock
38	XIN	I	4.19 MHz main clock
39	XOUT	O	4.19 MHz main clock
40	VSS	—	Ground (0 V)
41	MBP1	O	Microcomputer beat proof output 1
42	MBP2	O	Microcomputer beat proof output 2
43	TUNERL	O	Function select tuner low output
44	CDL	O	Function select CD low output
45	STO	I	Stocker area detection switch (SW1)
46	PLY	I	Play position detection switch (SW2)
47	STL	I	Stocker lid switch (SW6)
48	TRL	I	Traverse lid switch (SW3)
49	FWD	O	Motor control forward output
50	REV	O	Motor control reverse output
51	PLLDA	O	PLL data output
52	PLLCE	O	PLL chip enable output
53	PLLCK	O	PLL clock output
54	NC	—	No connection
55	BP1	O	Deck mecha beat proof output 1
56	BP2	O	Deck mecha beat proof output 2
57	MUTE A	O	Audio Mute output A
58	MUTE B	O	Audio Mute output B
59	NC	—	No connection
60-90	SEG30~SEG0	O	LCD segment drive output
91	VCC	—	Power supply (+5 V)
92	VREF	—	Reference voltage for A-D converter
93	AVSS	—	A-D converter ground
94-97	COM3~COM0	O	LCD common drive output
98	VL3	—	LCD Bias supply
99	VL2	—	LCD Bias supply
100	NC	—	No connection

■ Terminal Guide of ICs, Transistors and Diodes

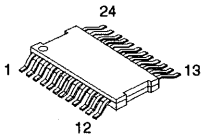
AN7135



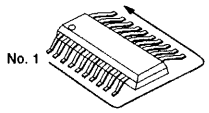
AN7348K



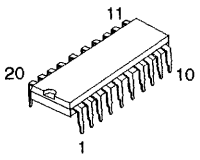
AN7332STAE1
AN8389SE1



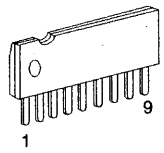
AN8835SBE1(28P)
LA1831MSATEL(24P)
LM7001M-TE-L(20P)



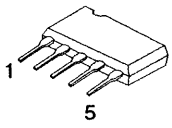
M62414SP



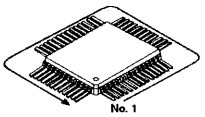
BA6418N



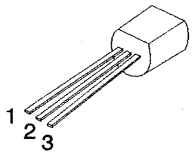
BA7755A



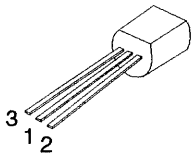
M38254M6125(100P)
MN662741RPA(80P)



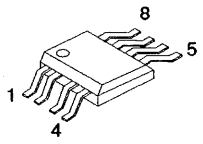
S-806G-Z



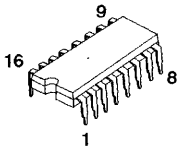
S81350HG-T



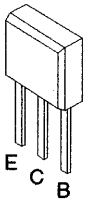
TA7358FMATEL



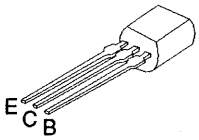
TC4052BP



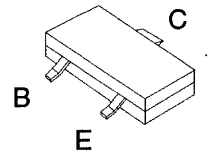
2SA1175FTA
BA1A3QTA
BA1A4MTA
BA1L4MTA
BN1A4MTA



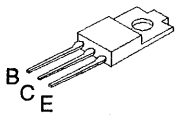
2SA564RTA
2SB621RTA
2SC1684STA
2SC2001KTA
2SD592STA
2SD965RTA



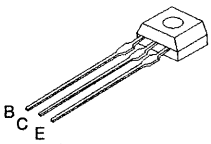
2SB709S



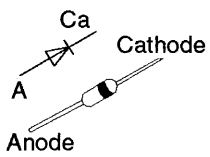
2SB1566E



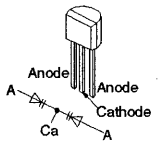
2SC2785FTA
2SC2787FL1TA
2SC2787LTA
BN1L3NTA
BN1L3ZTA



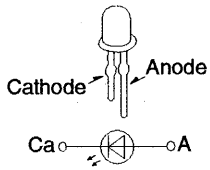
1SS254TA



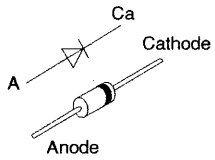
KV1360NT
KV1580NT



SLR33VC70F08

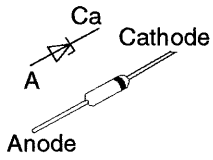


RL154M11

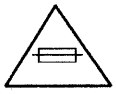


MTZJ5R1BTA
MTZJ5R1CTA
MTZJ5R6BTA
MTZJ7R5CTA

MTZJ8R2CTA
MTZJ9R1CTA
MTZJ12BTA
RVDMTZ11BTA



CAUTION : FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH SAME TYPE 3 A 125V FUSE.



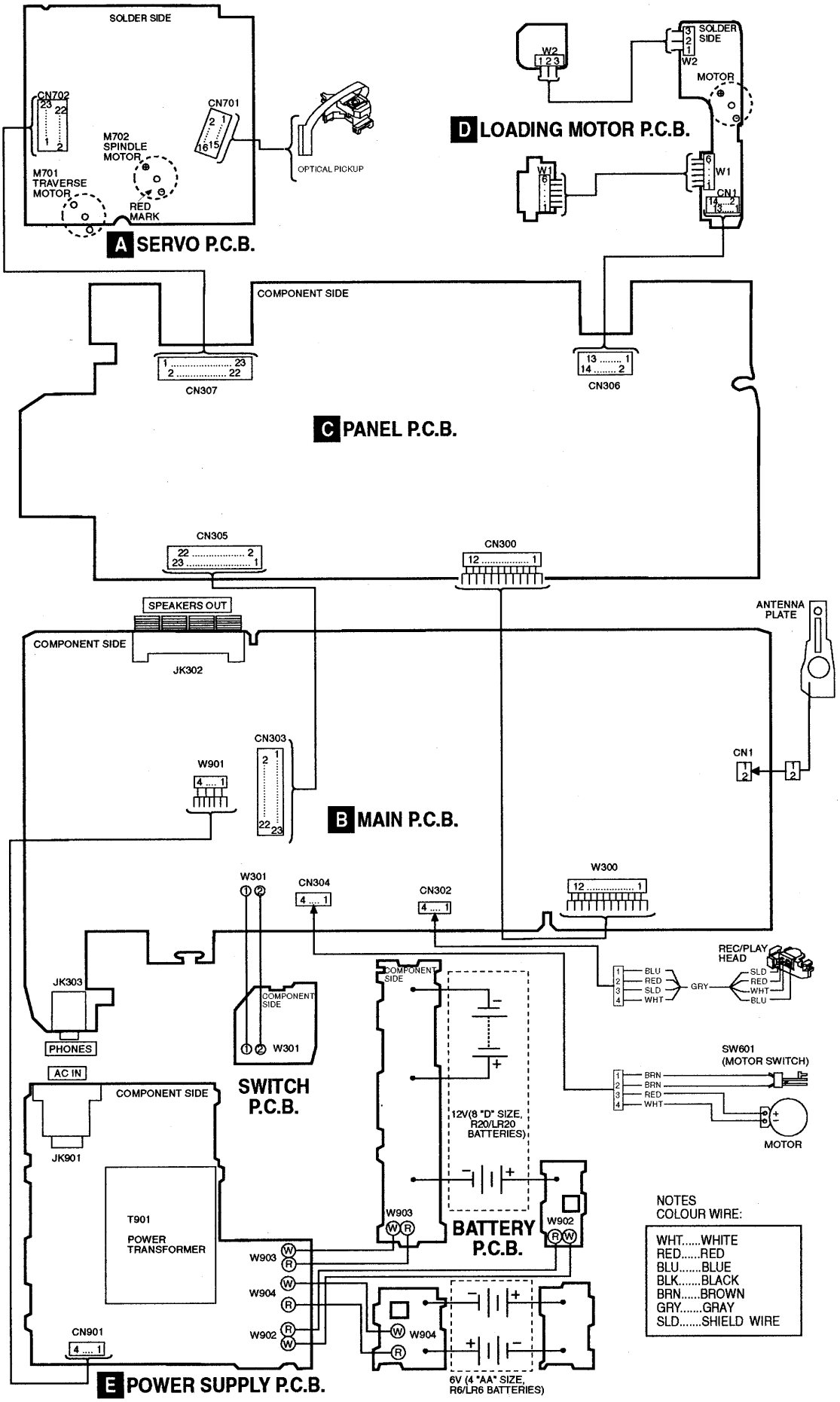
RISK OF FIRE-REPLACE FUSE AS MARKED.

FUSE CAUTION

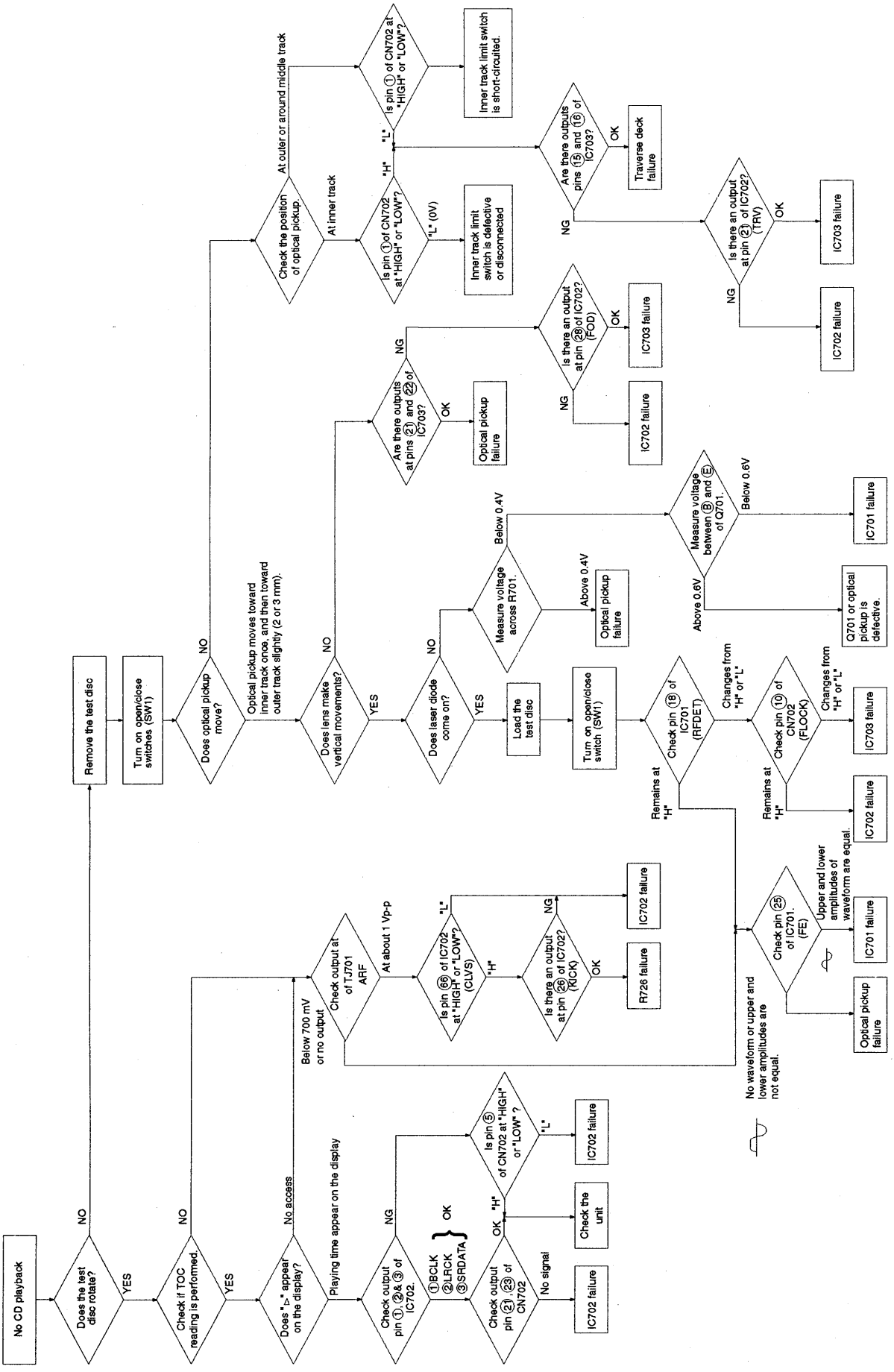
These symbols located near the fuse indicates that the fuse used is a fast operating type. For continued protection against fire harzard, replace with the same type fuse. For fuse rating, refer to the marking adjacent to the symbol.

Ce symbole indique que le fusible utilisé est à rapide. Pour une protection permanente, n' utiliser que des fusibles de même type. Ce dernier est indiqué là qù le présent symbole est apposé.

■ Wiring Connection Diagram

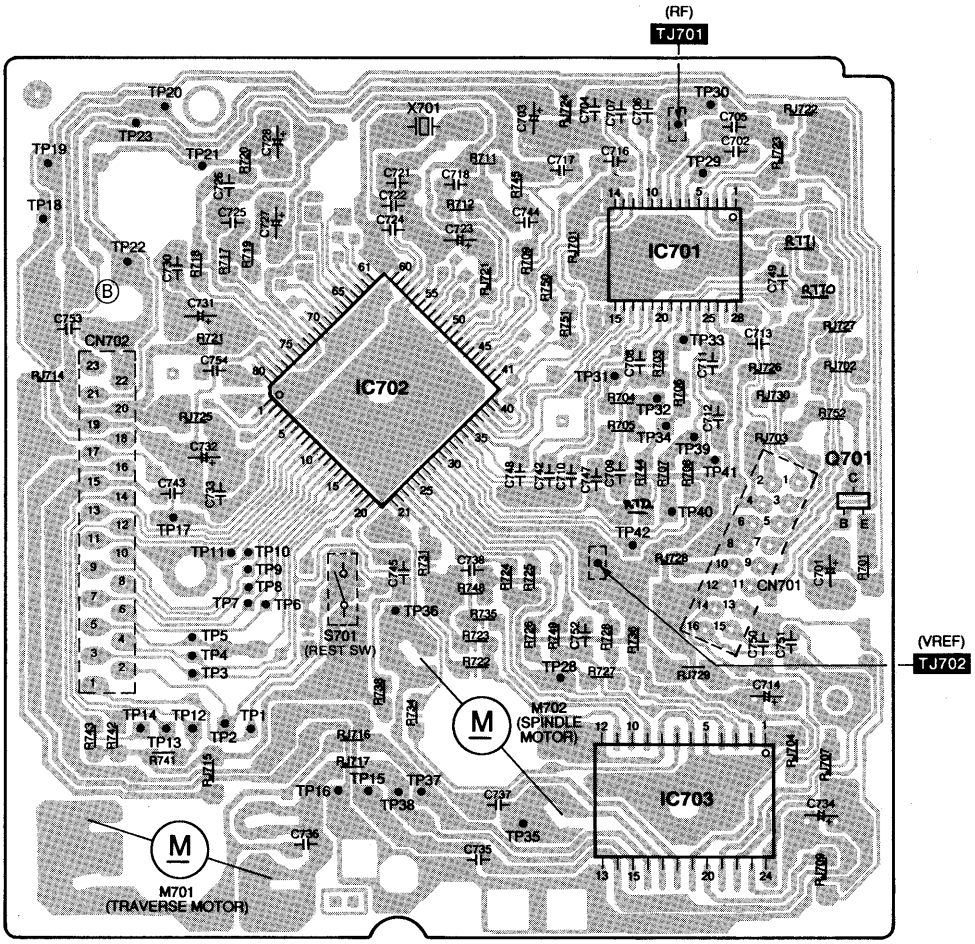


■ Troubleshooting Guide

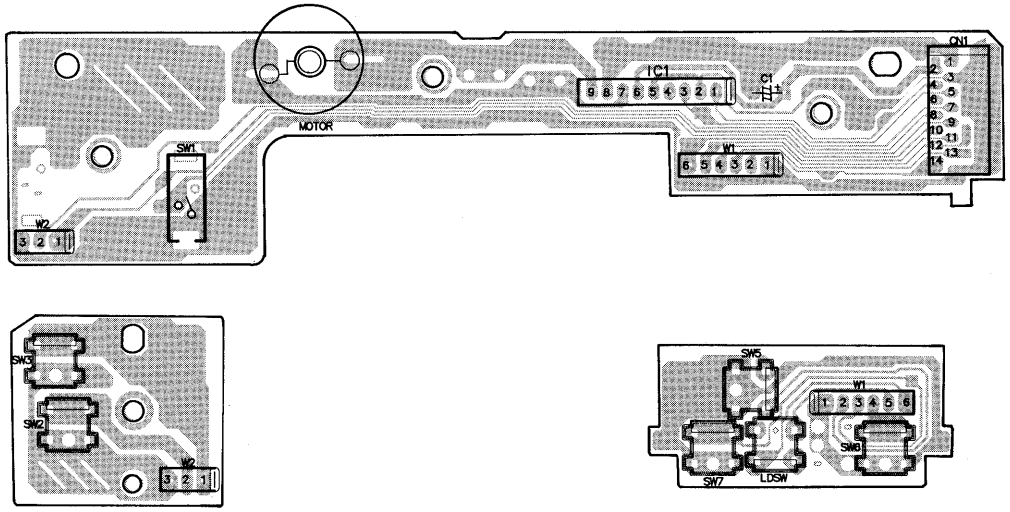


■ Printed Circuit Board

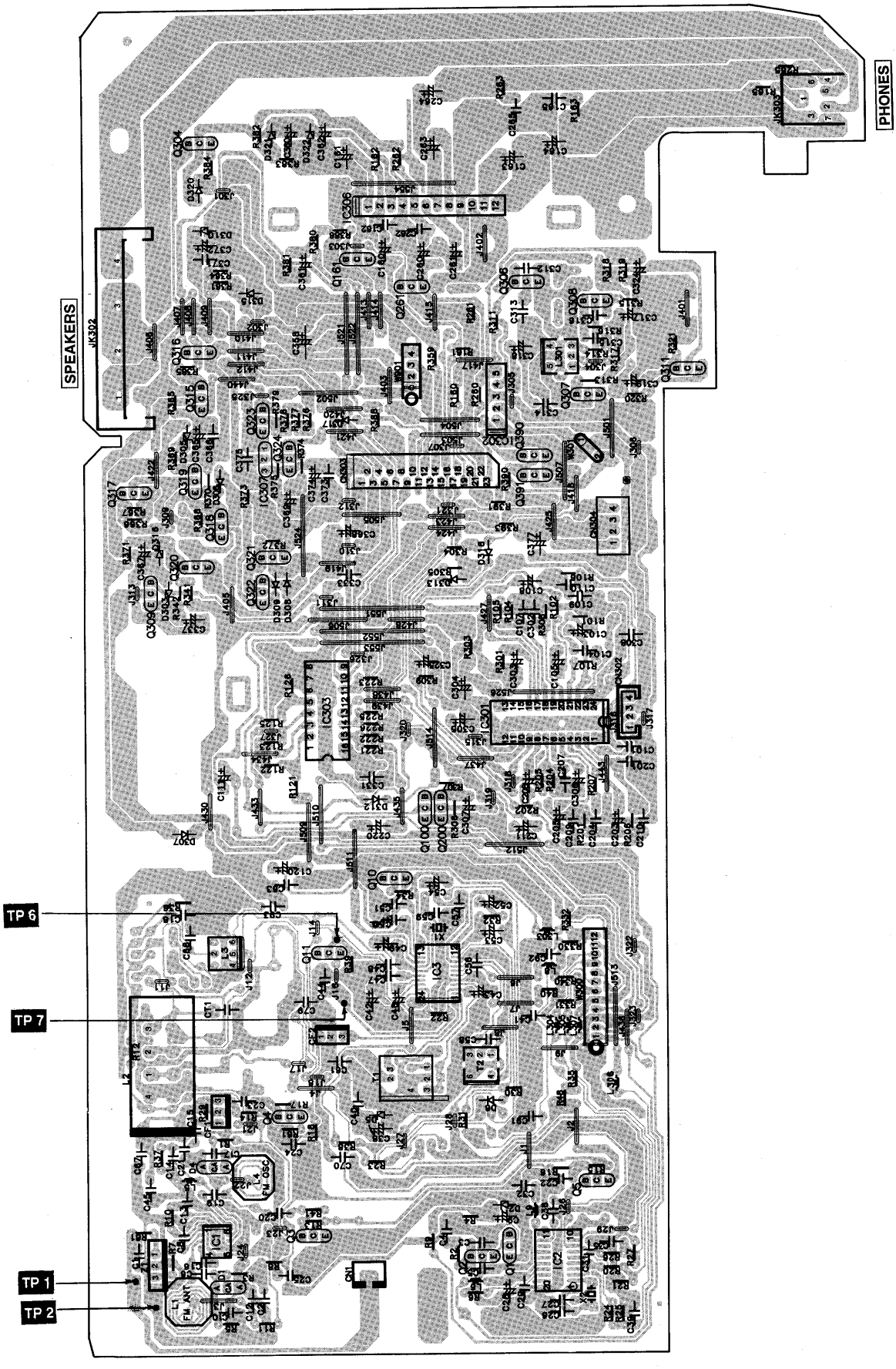
A SERVO P.C.B. (REPX0109)



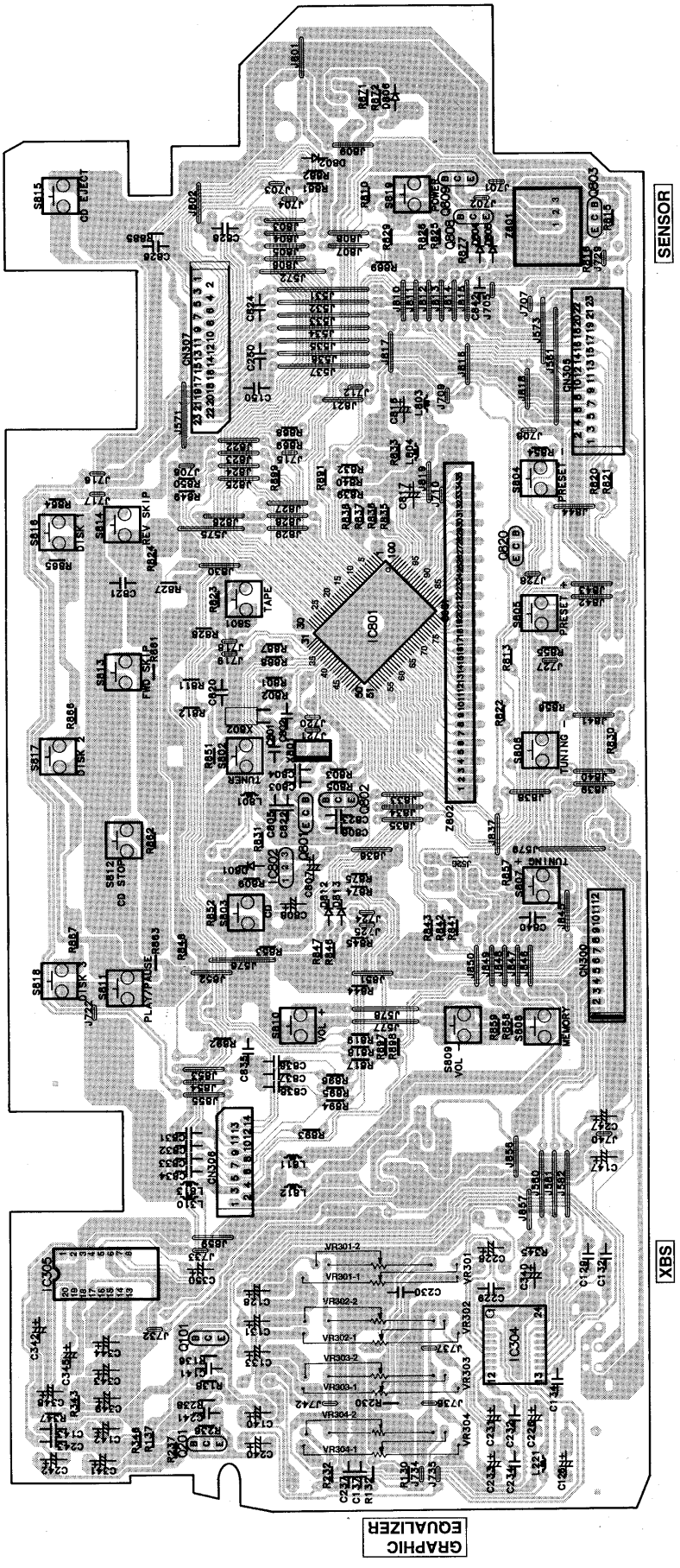
D LOADING MOTOR P.C.B. (REP2182B-N)



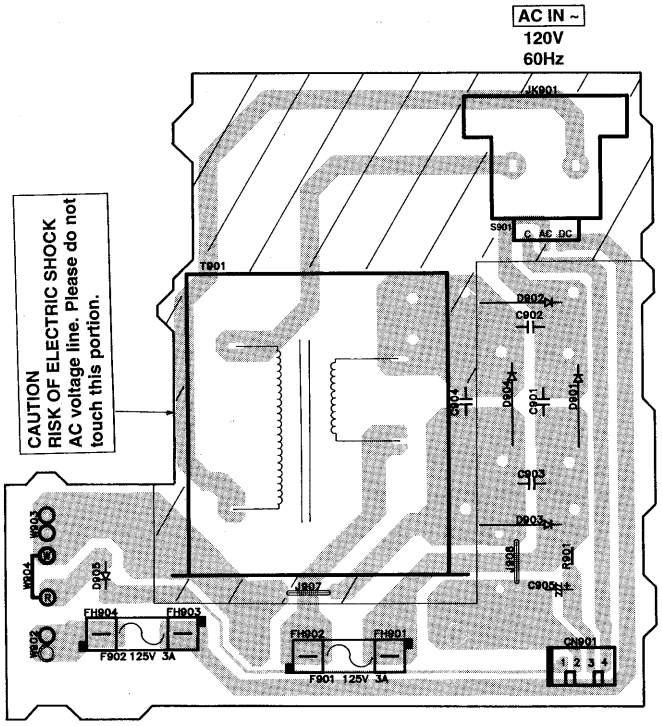
B MAIN P.C.B. (REPX0102)



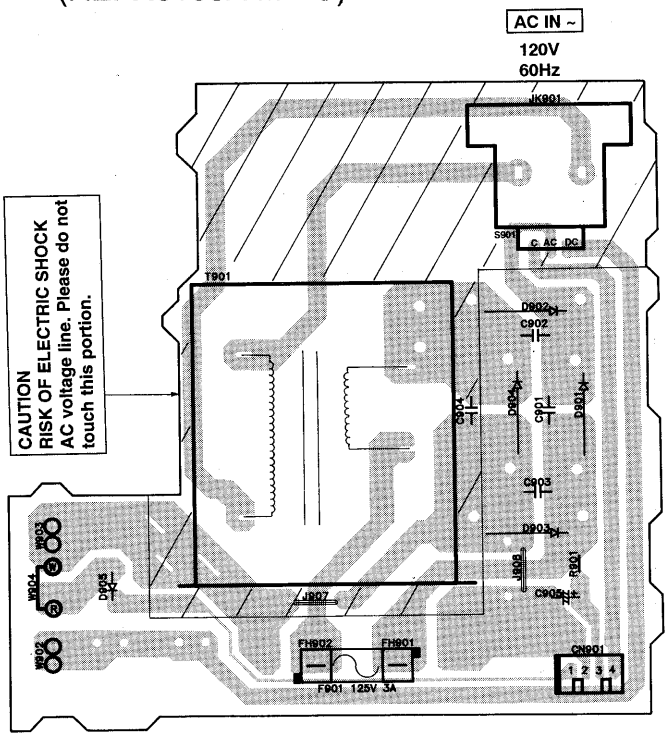
C PANEL P.C.B. (REPX0102)



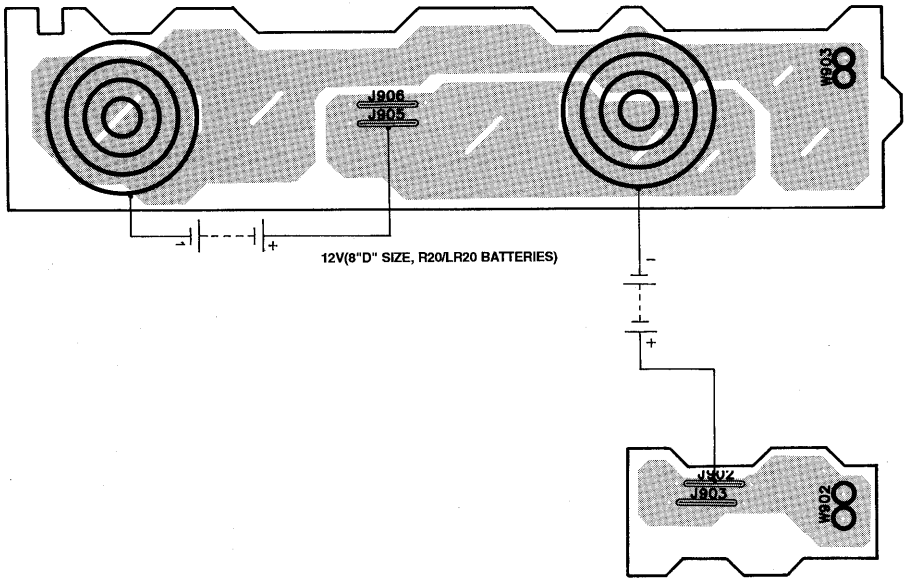
E POWER SUPPLY P.C.B. (REPX0103 ... P)

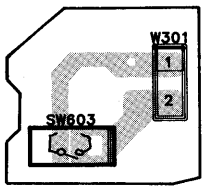


E POWER SUPPLY P.C.B. (REPX0103A ... PC)

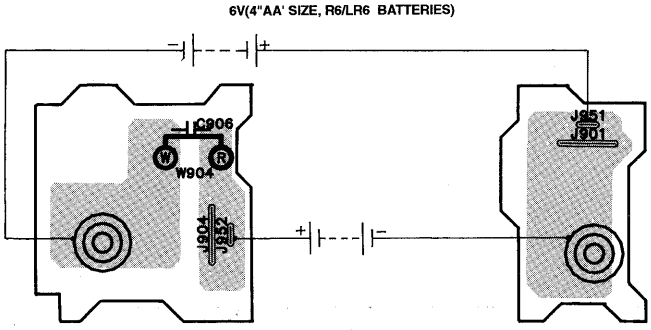


BATTERY P.C.B.

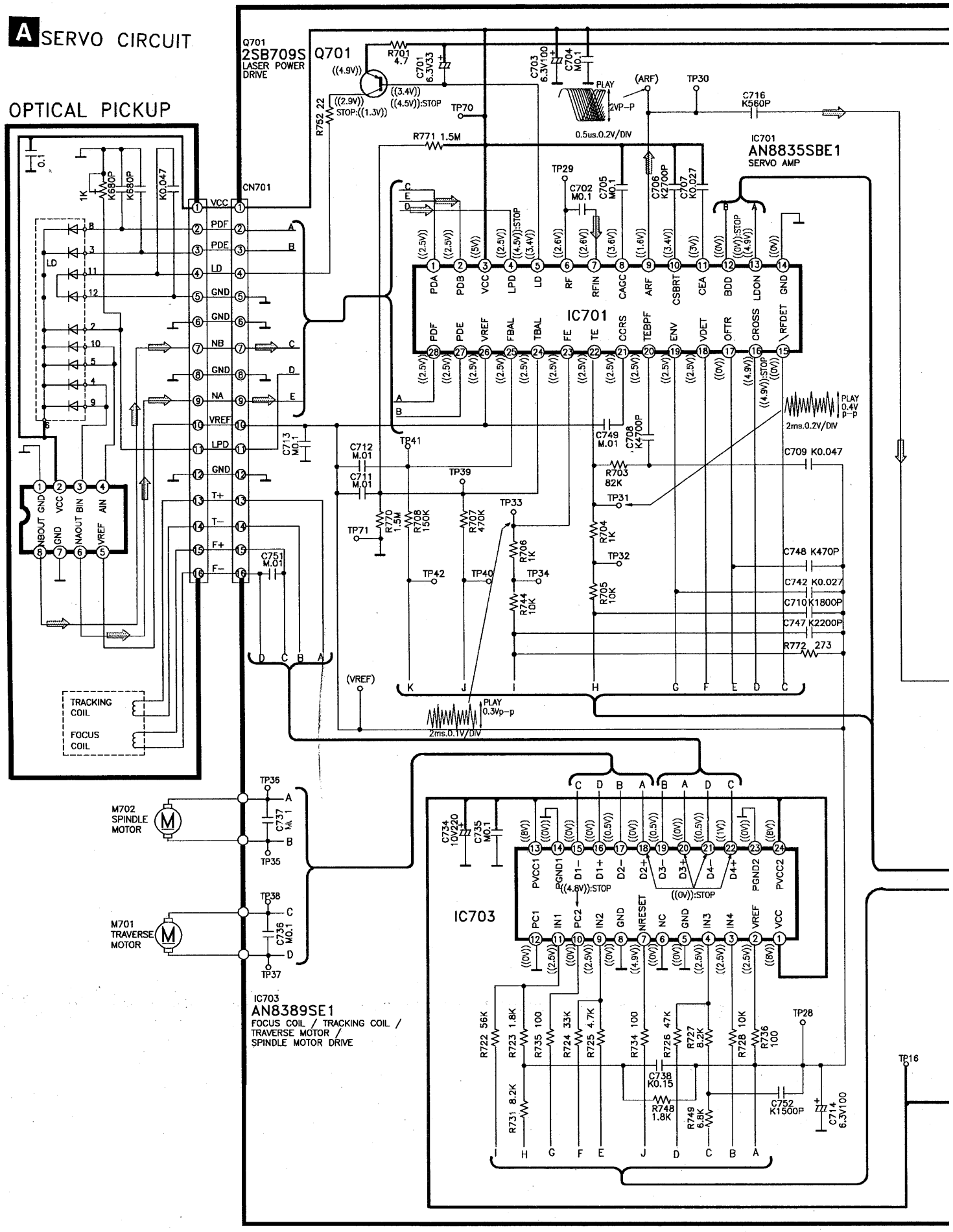


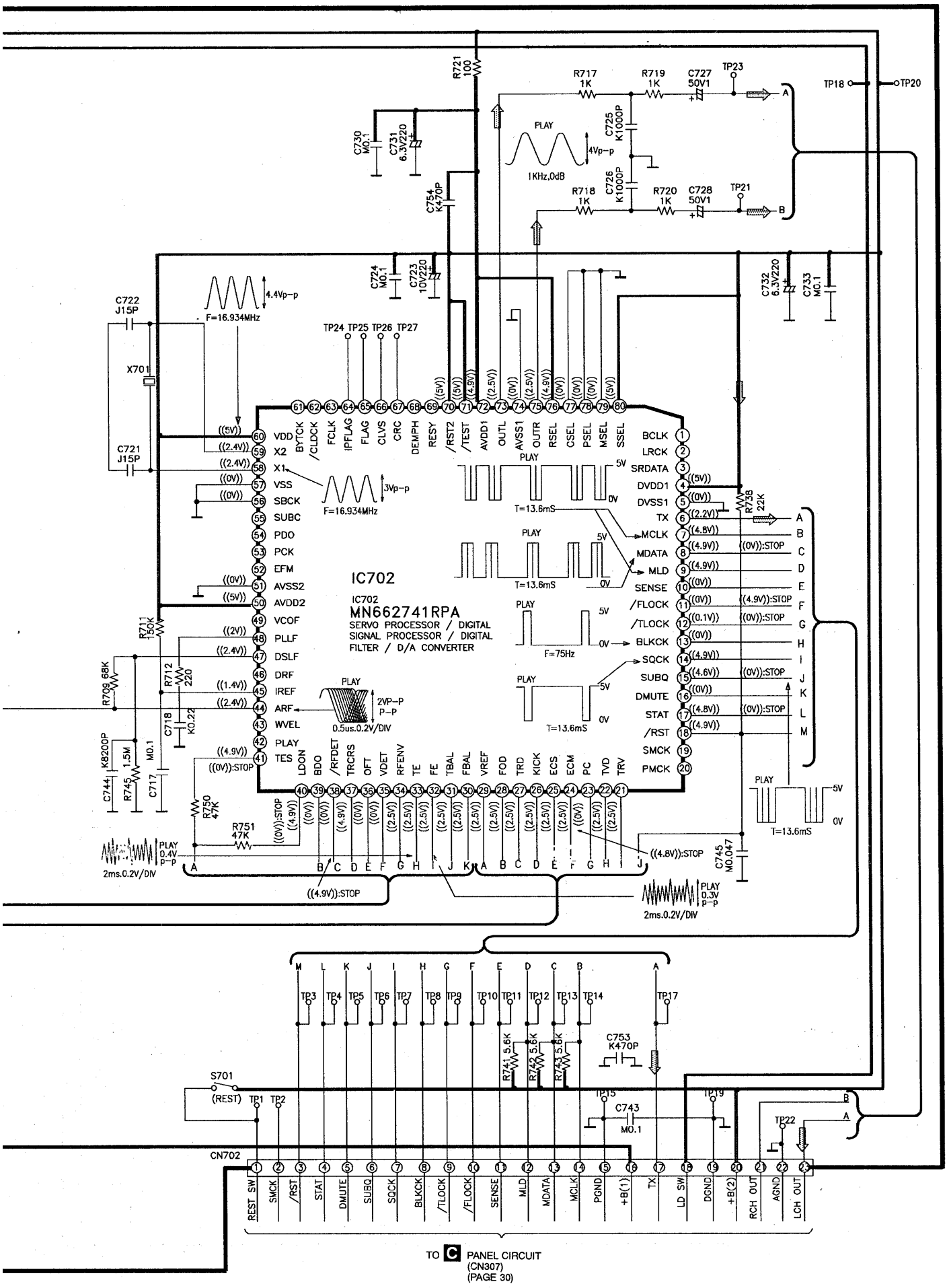


SWITCH P.C.B.

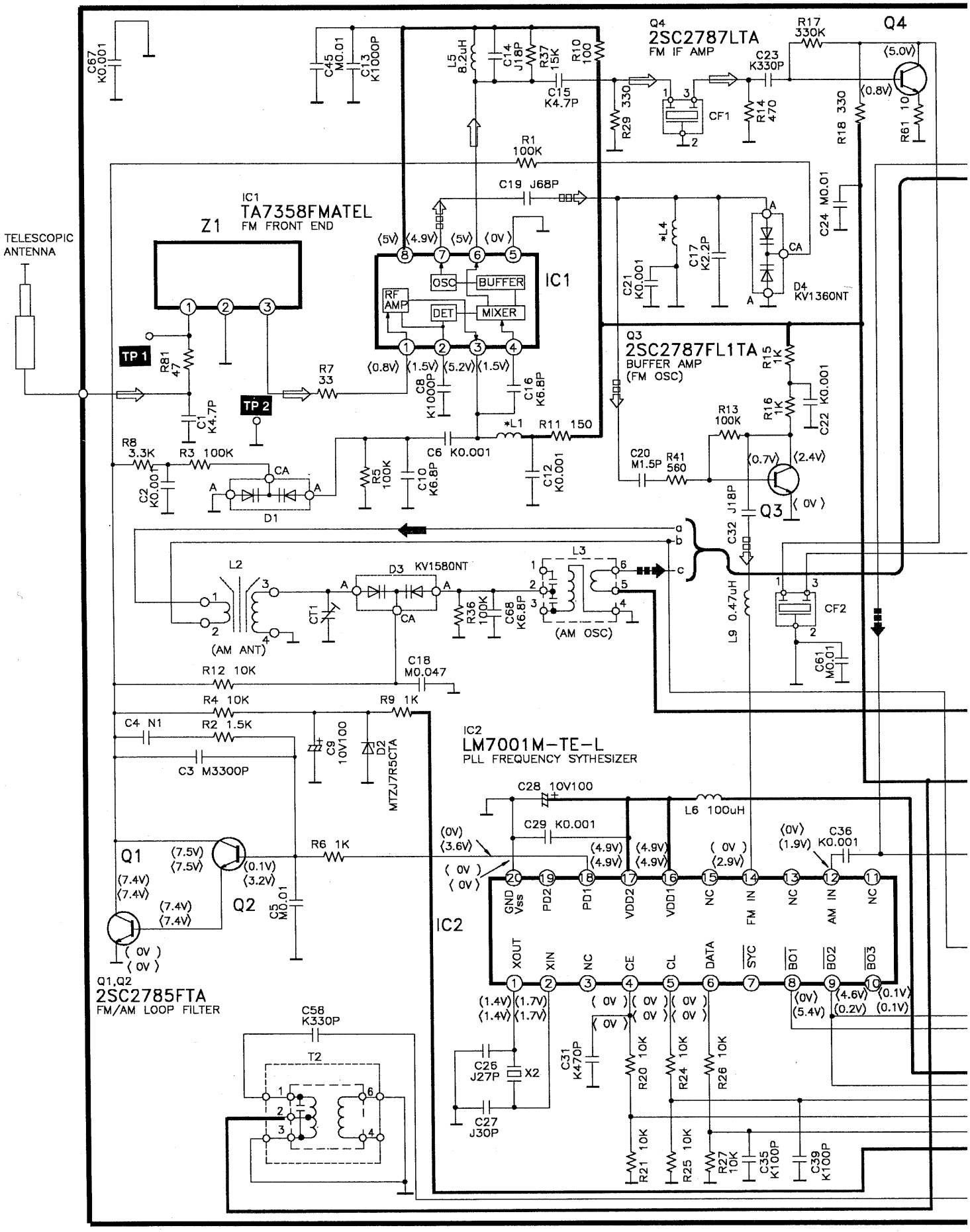


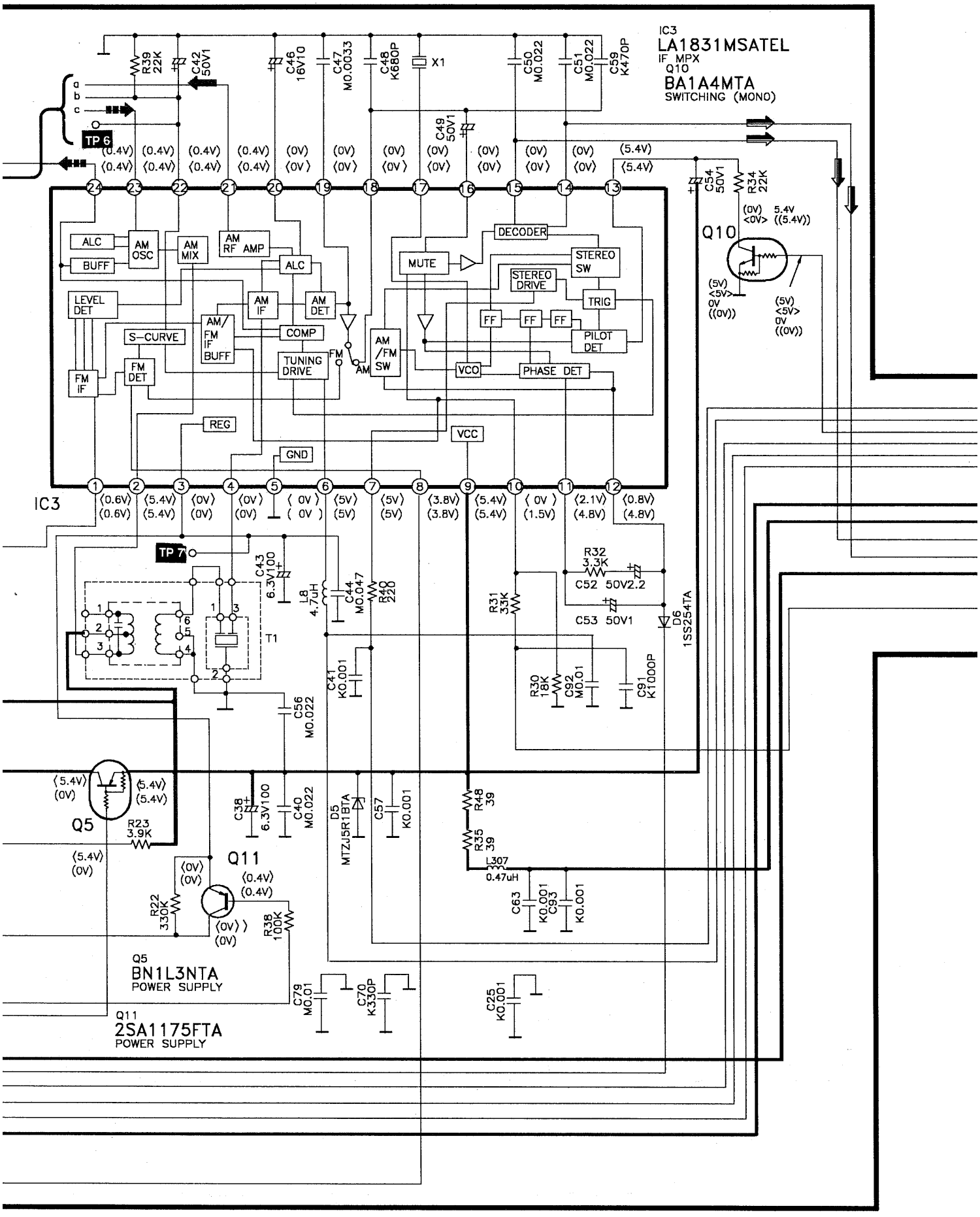
■ Schematic Diagram

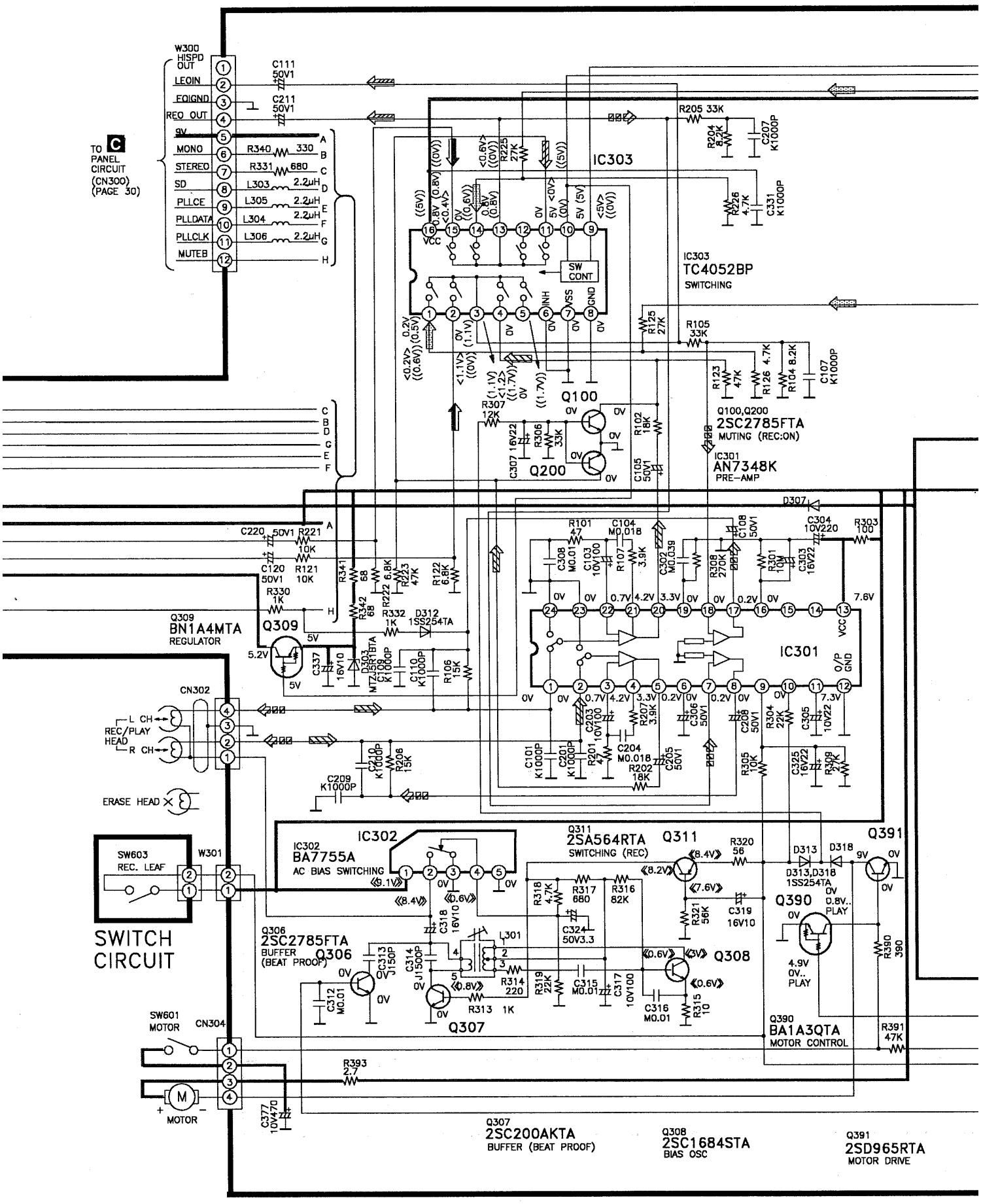


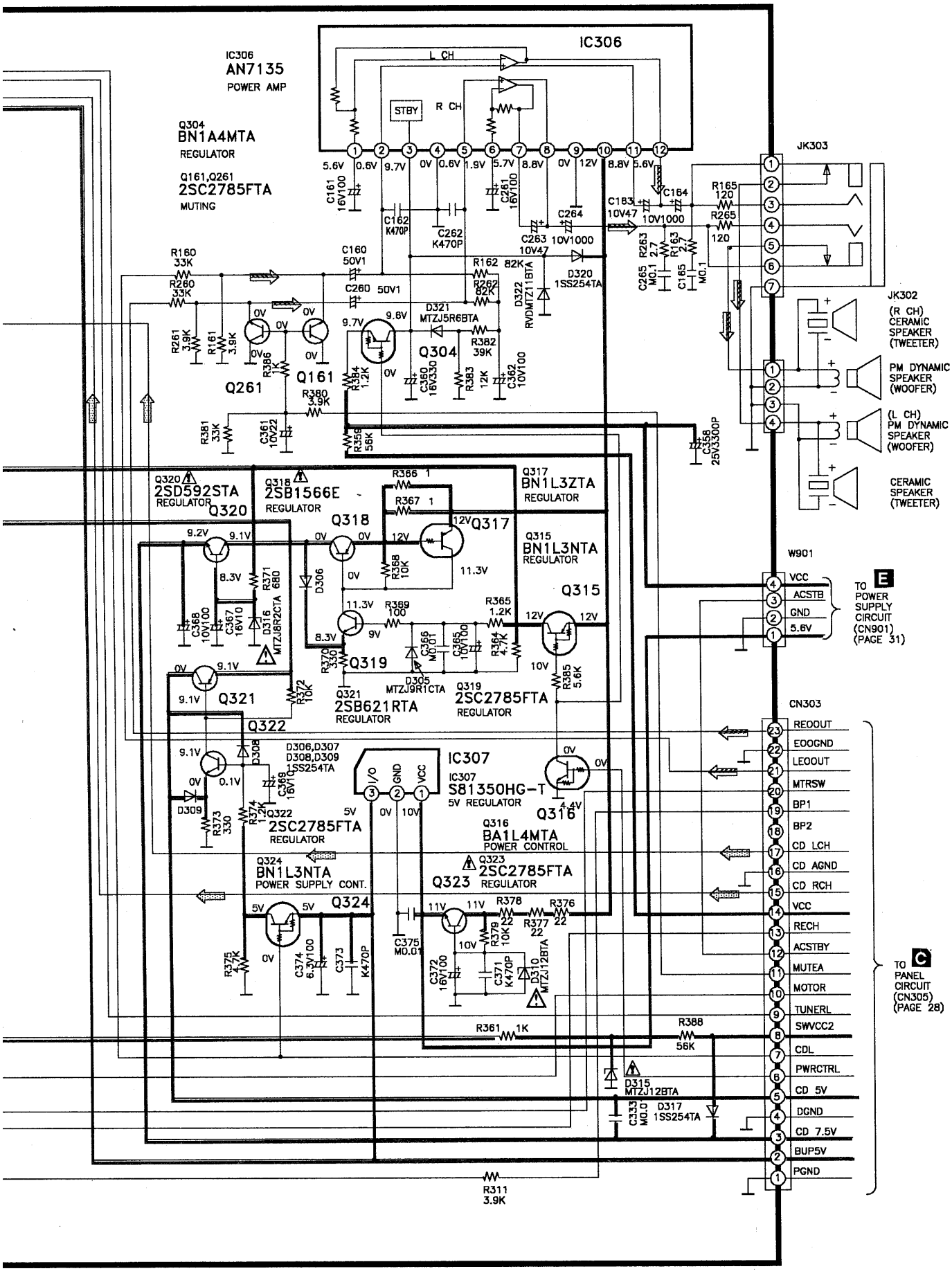

IC702
IC702
MN662741RPA
SERVO PROCESSOR / DIGITAL
SIGNAL PROCESSOR / DIGITAL
FILTER / D/A CONVERTER
TO C PANEL CIRCUIT
(CN307)
(PAGE 30)

B MAIN CIRCUIT

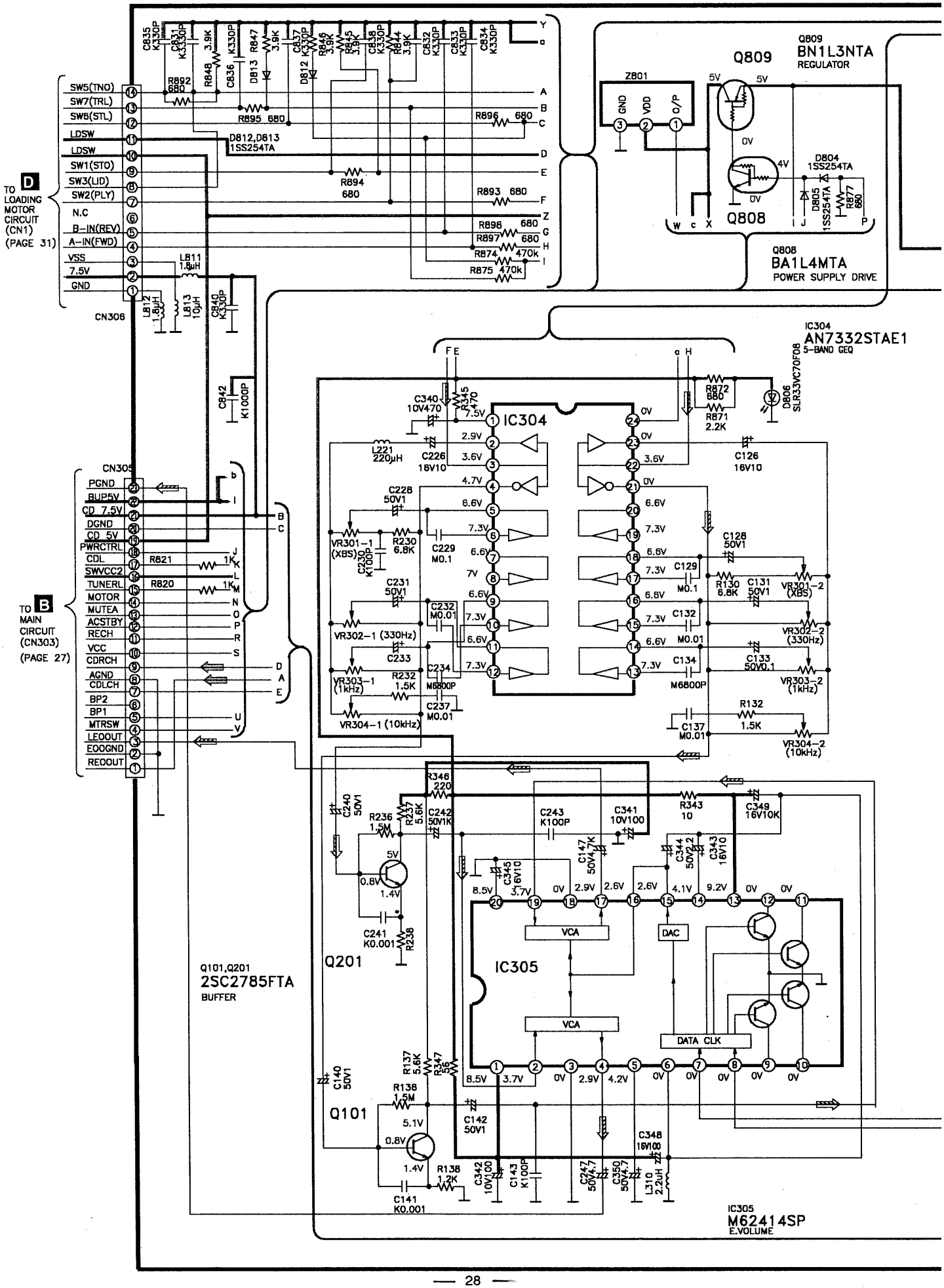


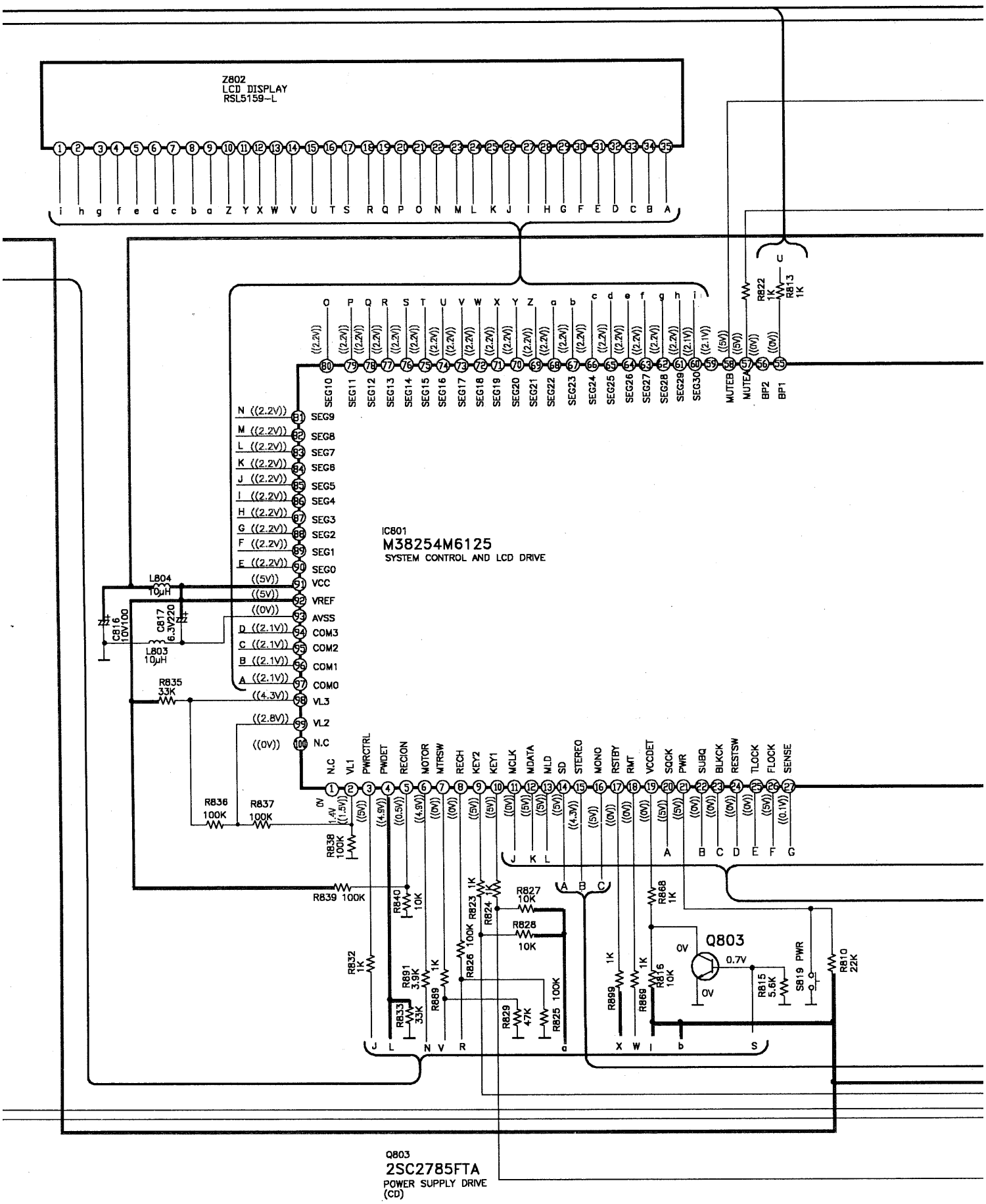

IC3
LA1831MSATEL
IF MPX
Q10
BA1A4MTA
SWITCHING (MONO)
TP 6
TP 7
ALC
BUFF
AM OSC
AM MIX
AM RF AMP
ALC
LEVEL DET
AM IF
AM DET
AM/ FM IF BUFF
COMP
S-CURVE
FM DET
FM IF
TUNING DRIVE
FM
AM
AM /FM SW
MUTE
DECODER
STEREO SW
STEREO DRIVE
TRIG
FF
FF
FF
PILOT DET
VCO
PHASE DET
REG
VCC
GND
IC3
Q10
Q5
BN1L3NTA
POWER SUPPLY
Q11
2SA1175FTA
POWER SUPPLY
T1
D5
MTZJ5R1BTA
D6
1SS254TA
X1
L8
4.7uH
L307
0.47uH

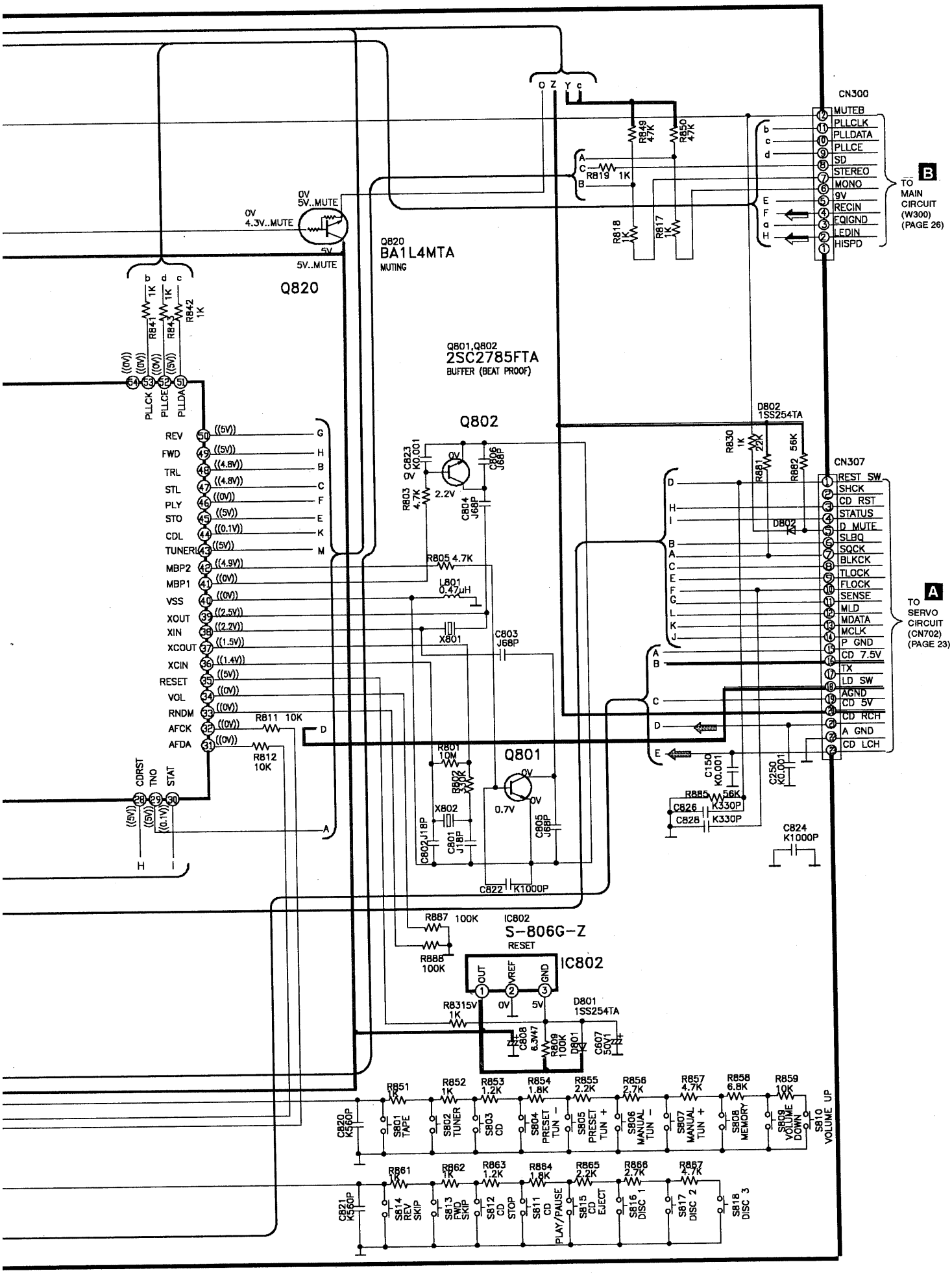

W300
HISPD OUT
LEOIN
EQIGND
REQ OUT
9V
MONO
STEREO
SD
PLLCE
PLLDATA
PLLCLK
MUTEB
TO C PANEL CIRCUIT (CN300) (PAGE 30)
IC303
TC4052BP
SWITCHING
SW CONT
VCC
VSS
GND
INH
Q100
Q200
Q100,Q200
2SC2785FTA
MUTING (REC:ON)
IC301
AN7348K
PRE-AMP
Q309
BN1A4MTA
REGULATOR
IC301
VCC
O/P GND
CN302
L CH
R CH
REC/PLAY HEAD
ERASE HEAD
SW603
REC. LEAF
W301
SWITCH CIRCUIT
IC302
BA7755A
AC BIAS SWITCHING
Q311
2SA564RTA
SWITCHING (REC)
Q306
2SC2785FTA
BUFFER (BEAT PROOF)
Q307
Q308
Q390
BA1A3QTA
MOTOR CONTROL
Q391
2SD965RTA
MOTOR DRIVE
SW601
MOTOR
CN304
M
MOTOR
Q307
2SC200AKTA
BUFFER (BEAT PROOF)
Q308
2SC1684STA
BIAS OSC

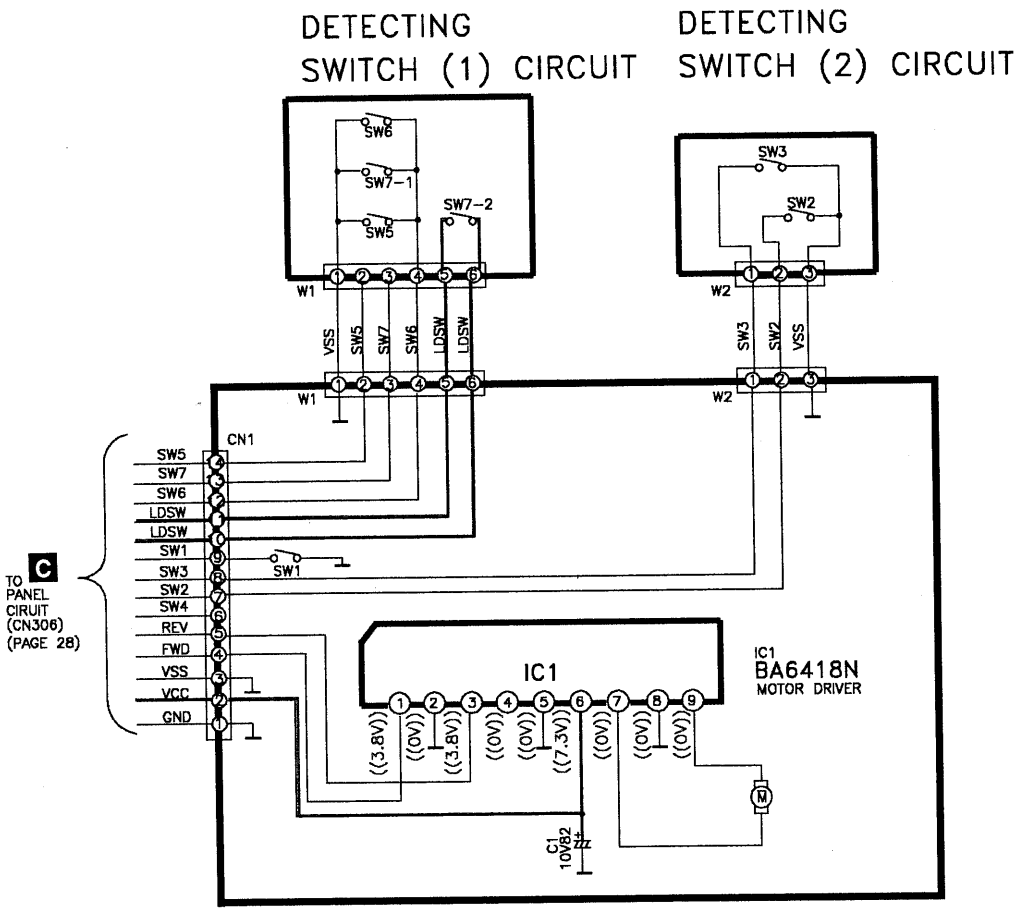

IC306
AN7135
POWER AMP
IC306
L CH
R CH
STBY
Q304
BN1A4MTA
REGULATOR
Q161,Q261
2SC2785FTA
MUTING
JK303
JK302
(R CH)
CERAMIC
SPEAKER
(TWEETER)
PM DYNAMIC
SPEAKER
(WOOFER)
(L CH)
PM DYNAMIC
SPEAKER
(WOOFER)
CERAMIC
SPEAKER
(TWEETER)
Q320
2SD592STA
REGULATOR
Q318
2SB1566E
REGULATOR
Q317
BN1L3ZTA
REGULATOR
Q315
BN1L3NTA
REGULATOR
W901
VCC
ACSTB
GND
5.6V
TO E
POWER
SUPPLY
CIRCUIT
(CN901)
(PAGE 31)
Q321
2SB621RTA
REGULATOR
Q319
2SC2785FTA
REGULATOR
Q322
2SC2785FTA
REGULATOR
IC307
S81350HG-T
5V REGULATOR
Q316
BA1L4MTA
POWER CONTROL
Q324
BN1L3NTA
POWER SUPPLY CONT.
Q323
2SC2785FTA
REGULATOR
CN303
REOOUT
EOOGND
LEOOUT
MTRSW
BP1
BP2
CD LCH
CD AGND
CD RCH
VCC
RECH
ACSTBY
MUTEA
MOTOR
TUNERL
SWVCC2
CDL
PWRCTRL
CD 5V
DGND
CD 7.5V
BUP5V
PGND
TO C
PANEL
CIRCUIT
(CN305)
(PAGE 28)

C PANEL CIRCUIT



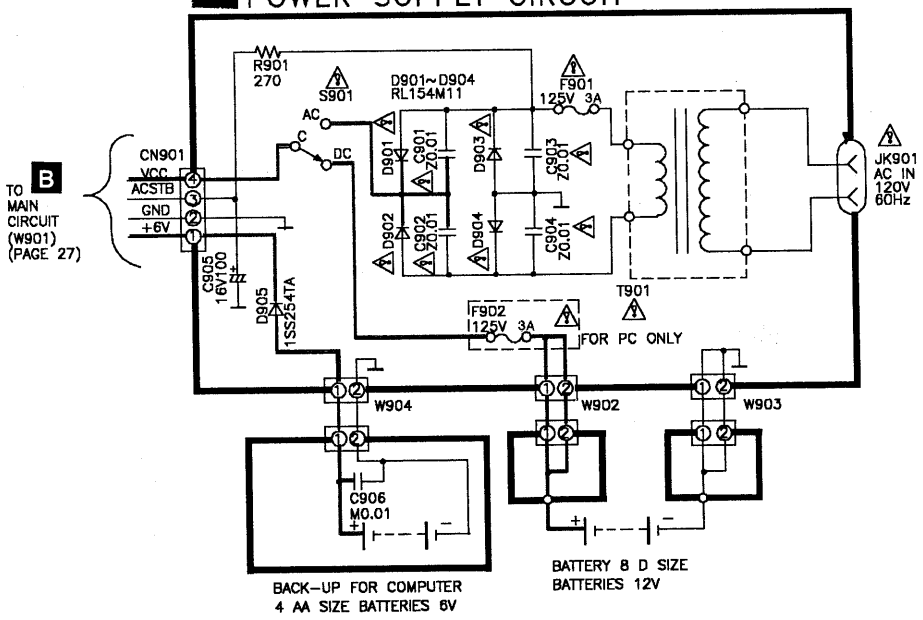

Z802
LCD DISPLAY
RSL5159-L
IC801
M38254M6125
SYSTEM CONTROL AND LCD DRIVE
Q803
2SC2785FTA
POWER SUPPLY DRIVE
(CD)


CN300
MUTEB
PLLCLK
PLLDATA
PLLCE
SD
STEREO
MONO
9V
RECIN
EQIGND
LEDIN
HISPD
TO MAIN CIRCUIT (W300) (PAGE 26)
Q820
BA1L4MTA
MUTING
0V 5V..MUTE
0V 4.3V..MUTE
5V..MUTE
Q820
Q801,Q802
2SC2785FTA
BUFFER (BEAT PROOF)
Q802
Q801
D802 1SS254TA
CN307
REST SW
SHCK
CD RST
STATUS
D MUTE
SLBQ
SQCK
BLKCK
TLOCK
FLOCK
SENSE
MLD
MDATA
MCLK
P GND
CD 7.5V
TX
LD SW
AGND
CD 5V
CD RCH
A GND
CD LCH
TO SERVO CIRCUIT (CN702) (PAGE 23)
REV
FWD
TRL
STL
PLY
STO
CDL
TUNERL
MBP2
MBP1
VSS
XOUT
XIN
XCOUT
XCIN
RESET
VOL
RNDM
AFCK
AFDA
PLLCK
PLLCE
PLLDA
CDRST
TNO
STAT
X801
X802
L801 0.47µH
R805 4.7K
R811 10K
R812 10K
R801 10M
R802 100K
R803 4.7K
R804 2.2K
R830 1K
R881 22K
R882 56K
R885 56K
C823 K0.001
C806 J68P
C804 J68P
C803 J68P
C805 J68P
C801 J18P
C802 J18P
C822 K1000P
C824 K1000P
C826 K330P
C828 K330P
C150 K0.001
C250 K0.001
R887 100K
R888 100K
IC802
S-806G-Z
RESET
OUT
VREF
GND
R8315V 1K
D801 1SS254TA
C808 6.3V47
R809 100K
C607 50V1
R851 1K
R852 1K
R853 1.2K
R854 1.8K
R855 2.2K
R856 2.7K
R857 4.7K
R858 6.8K
R859 10K
C820 K560P
S801 TAPE
S802 TUNER
S803 CD
S804 PRESET TUN –
S805 PRESET TUN +
S806 MANUAL TUN –
S807 MANUAL TUN +
S808 MEMORY
S809 VOLUME DOWN
S810 VOLUME UP
R861 1K
R862 1K
R863 1.2K
R864 1.8K
R865 2.2K
R866 2.7K
R867 4.7K
C821 K560P
S814 REV SKIP
S813 FWD SKIP
S812 CD STOP
S811 CD PLAY/PAUSE
S815 CD EJECT
S816 DISC 1
S817 DISC 2
S818 DISC 3



D LOADING MOTOR CIRCUIT

E POWER SUPPLY CIRCUIT



BATTERY CIRCUIT

■ Schematic Diagram

(All schematic diagrams may be modified at any time with the development of new technology)

Note :

< for Servo circuit > (Page 23)

- **S701** : Reset switch

< for Main circuit > (Page 26)

- **SW601** : Motor switch.
- **SW603** : Rec. leaf switch.

< for Panel circuit > (Page 28 ~ 30)

- **S801** : Tape switch
- **S802** : Tuner switch
- **S803** : CD switch
- **S804** : Preset Tuning Down switch
- **S805** : Preset Tuning Up switch
- **S806** : Tuning Down switch
- **S807** : Tuning Up switch
- **S808** : Memory switch
- **S809** : Volume Down switch
- **S810** : Volume Up switch
- **S811** : Play/Pause switch
- **S812** : CD Stop switch
- **S813** : Forward skip switch
- **S814** : Reverse skip switch
- **S815** : CD Eject switch
- **S816** : CD Disc 1 switch
- **S817** : CD Disc 2 switch
- **S818** : CD Disc 3 switch
- **S819** : Power switch
- **VR301-1 ~ VR301-2** : XBS control
- **VR302-1 ~ VR302-2** : Equaliser control (330Hz)
- **VR303-1 ~ VR303-2** : Equaliser control (1kHz)
- **VR304-1 ~ VR304-2** : Equaliser control (10kHz)

< for Loading Motor circuit > (Page 31)

- **SW1** : Leaf switch.
- **SW2~SW7-2** : Mecha switch.

< for Power Supply circuit > (Page 31)

- **S901** : AC/DC switch (JK901)

< General >

•Battery Current

Vol. min	215mA (Radio)	Vol. max	550mA (Radio)
	300mA (Tape)		905mA (Tape)
	485mA (CD)		1600mA (CD)
	2.285mA (Recording)		2.3mA (Recording)

(Measurement condition:
Radio : FM 60 dB, 30%mod
AM 74 dB/m, 30%mod
Tape : 315 Hz, 0dB
CD : 1kHz, 0dB)

•Signal line

: +B line
: FM/AM signal line
: Main signal line
: Playback signal line
: Record signal line
: CD signal line
: FM signal line
: AM signal line
: AM OSC signal line
: FM OSC signal line

•The voltage value and waveforms are the reference voltage of this unit measured by DC electronic voltmeter (high impedance) and oscilloscope on the basis of chassis.
Accordingly, there may arise some error in voltage values and waveforms depending upon the internal impedance of the tester or the measuring unit.

No mark : Playback << >>.....Rec { } : Tuner (( )) : CD ( ) ..... AM < > ..... FM

•Importance safety notice:

Components identified by ⚠ mark have special characteristics important for safety. Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used. When replacing any of components, be sure to use only manufacturer's specified parts shown in the parts list.

Caution !

IC, LSI and VLSI are sensitive to static electricity.
Secondary trouble can be prevented by taking care during repair.
•Cover the parts boxes made of plastics with aluminium foil.
•Ground the soldering iron.
•Put a conductive mat on the work table.
•Do not touch the pins of IC, LSI or VLSI with fingers directly.

■ Mechanism Parts List

Note : **[M]** mark in Remarks column indicates parts that are supplied by **MESA**.

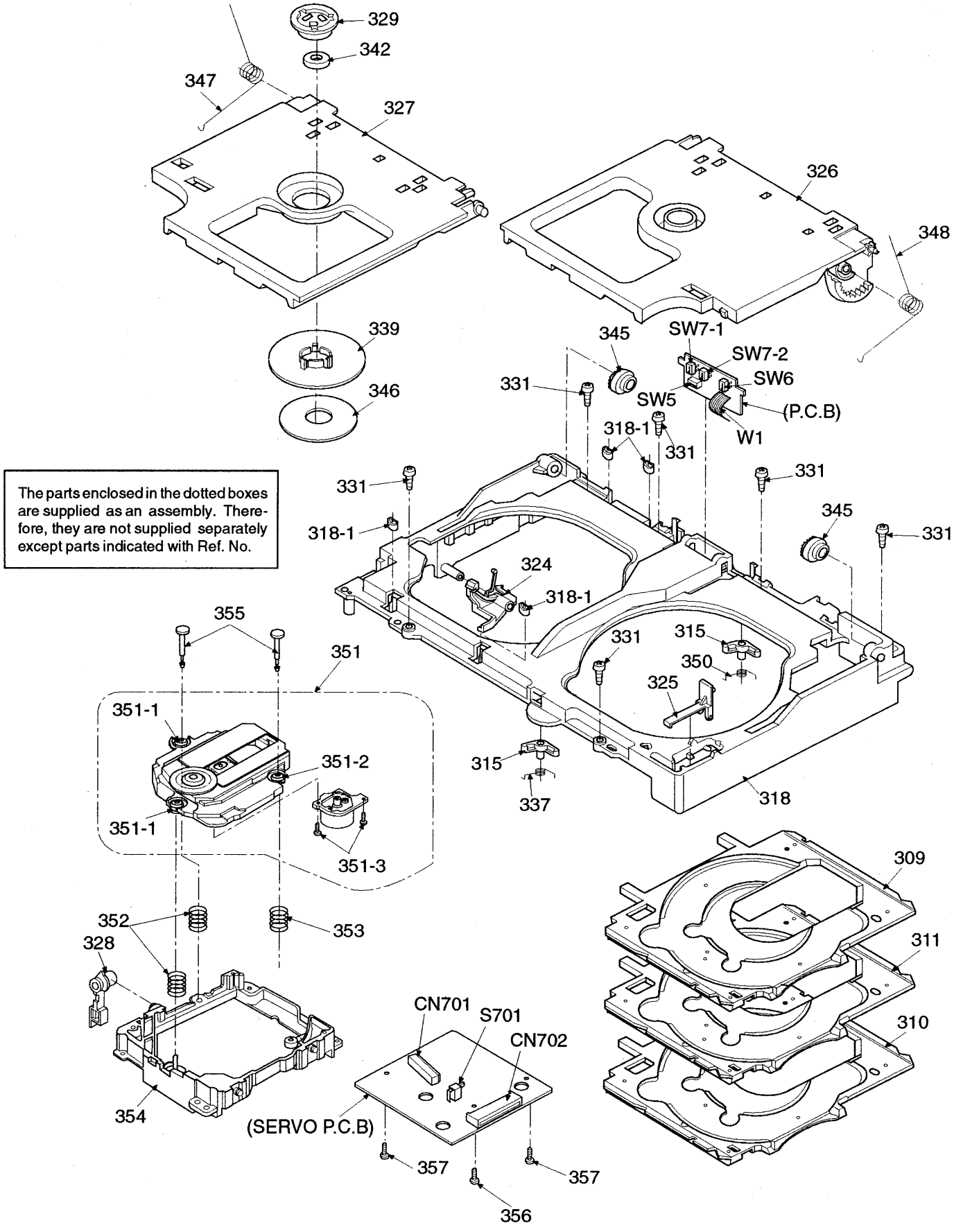
Ref No.	Part No.	Part Name & Description	Remarks
		CASSETTE DECK	
101	RDV0007	MAIN BELT	[M]
103	RMB0109-1	BRAKE SPRING	[M]
104	RML0116	BRAKE	[M]
105	RBR2CY009	ERASE HEAD	[M]
106	RDG0057	IDLER GEAR	[M]
107	RDG0059	FF RELAY GEAR	[M]
108	RDK0005	CAM GEAR	[M]
109	RDV0006-1	RF BELT	[M]
110	RHW16009	CAPSTAN WASHER	[M]
111	RMA0109	BACK PLATE	[M]
112	RMB0043-1	RODOPERATIONSPRING	[M]
113	RMB0045	AS SPRING	[M]
114	RMB0046-1	LOCK PLATE SPRING	[M]
115	RMB0047	HEAD PANEL SPRING	[M]
116	RMB0048	IDLER LEVER SPRING	[M]
117	RMB0053	PAUSE LEVER SPRING	[M]
118	RMB0125	BACK TENSION SPRING	[M]
119	RMC0061	PACK SPRING	[M]
120	RFKRCT090P-K	CHASSIS ASS'Y	[M]
121	RML0071	SWING LEVER	[M]
122	RML0072	AS RELEASE LEVER	[M]
123	RML0073-1	AS PROTECT LEVER	[M]
124	RML0074	IDLER LEVER	[M]
125	RML0076	EJECTSELECTIONLEVER	[M]
126	RML0077	LOCK PLATE	[M]
127	RML0078	FUNCTION PLATE	[M]
129	RML0081-1	RECORDSAFETYLEVER	[M]
130	RML0082	PAUSE LEVER	[M]
131	RMM0023	PLAY ROD	[M]
132	RMM0024	REW ROD	[M]
133	RMM0025	FF ROD	[M]
134	RMM0026	STOP ROD	[M]
135	RMM0027	PAUSE ROD	[M]
136	RMM0028	REC ROD	[M]
137	RMM0029	EJECT SLIDE LEVER	[M]
138	RMR0211	PAUSE BUSH	[M]
139	RMR0227	IDLER GEAR BUSH	[M]
140	RMS0055	REEL SHAFT	[M]
141	RXF0012	FLYWHEEL ASSY	[M]
141-1	RHW21008	FLYWHEEL WASHER	[M]
142	RMB0044	TRIGGER SPRING	[M]
143	RML0075	TRIGGER LEVER	[M]
144	RXP0014	RF CLUTCH ASSY	[M]
145	RXP0015	PINCH ROLLER ASSY	[M]
145-1	RMB0049	PINCH ARM SPRING	[M]
146	RBR4CY016-M	STEREO ASTEC HEAD	[M]
147	XTN2+14F	R/P HEAD SCREW	[M]
149	RMA0696	HEAD BASE	[M]
151	RMQ0384	HEAD BASE	[M]
154	RXR0004	TAKE UP REEL ASSY	[M]
155	RXR0005	SUPPLY REEL ASSY	[M]
156	XTN2+6J	BACK PLATE SCREW	
158	RHD26002	MOTOR SCREW	
160	RMG0102	MOTOR RUB. CUSH.	[M]
162	RFKPXDS101PK	DC MOTOR ASS'Y	[M]
163	RMA0108	MOTOR BK	[M]
164	XTN26+8J	MOTOR BK SCREW	
165	RME0098-2	EJECT SLIDE LEVER SP	[M]

■ CD Loading Unit Parts List

Note : **[M]** mark in Remarks column indicates parts that are supplied by **MESA**.

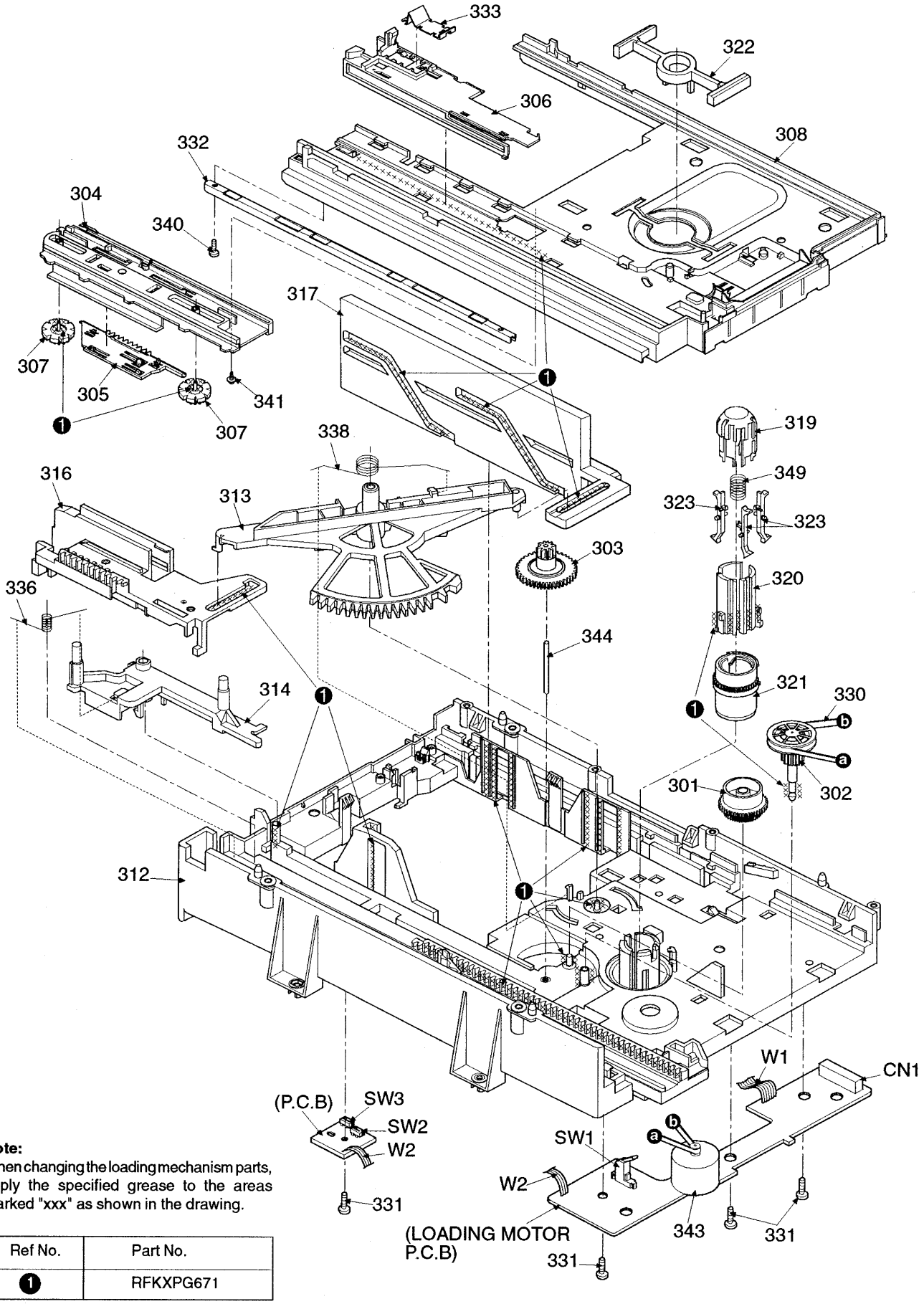
Ref No.	Part No.	Part Name & Description	Remarks
		TRAVERSE DECK	
301	RDG0309	RELAY GEAR	[M]
302	RDG0310	PULLEY GEAR	[M]
303	RDG0311	DRIVE GEAR	[M]
304	RMM0134	DRIVE RACK	[M]
305	RMM0135	CUSHION RACK	[M]
306	RMM0136	CARRIER LEVER	[M]
307	RDG0312	SPEED UP GEAR	[M]
308	RFKRDS790PK1	TRAY BASE ASS'Y	[M]
309	RGQ0170-K	TRAY 1	[M]
310	RGQ0171-K	TRAY 2	[M]
311	RGQ0172-K	TRAY 3	[M]
312	RFKRDS790PK2	MECHA BASE ASS'Y	[M]
313	RML0379	CHANGE LEVER	[M]
314	RML0380	LOCK LEVER	[M]
315	RML0384	UP PREVENTIONLEVER	[M]
316	RMM0138	SLIDE PLATE LEVER(1)	[M]
317	RMM0140	SLIDE PLATE LEVER(2)	[M]
318	RFKNDS790PK1	MECHA COVER ASS'Y	[M]
318-1	RMG0413-Q	RUBBER TUBE	[M]
319	RMR0889-K	DISC UP LOCK PIN	[M]
320	RMR0890-K	DISC DOWN LOCK PIN	[M]
321	RDG0314	UP/DOWN GEAR LEVER	[M]
322	RML0402	TRAY PUSH LEVER	[M]
323	RML0386	DISC CLAMP LEVER	[M]
324	RML0387	L OPEN LEVER	[M]
325	RMR0891-K	R OPEN LEVER	[M]
326	RFKKDS790PK3	R LID ASS'Y	[M]
327	RMR0893-K	L LID	[M]
328	RMR0898-K	STOPPER	[M]
329	RMR0334	FIXED PLATE	[M]
330	RDV0036	BELT	[M]
331	XTB3+10JFZ	SCREW PB, LID	
332	RMA0868	SUPPORT ANGLE	[M]
333	RMC0274	TRAY FOOK SPRING	[M]
336	RME0170	LOCK LEVER SPRING	[M]
337	RME0182	UP PREVENTION SPRING(L	[M]
338	RME0179	ASSIST SPRING	[M]
339	RMR0789-K	MAGNETHOLDERLEVER	[M]
340	XTN2+6F	SCREWSUPPORTANGLE	[M]
341	RHD20010	SCREW DRIVE RACK	[M]
342	RHM245ZA	MAGNET	[M]
343	RFKPDS790PK1	MOTOR ASS'Y	[M]
344	RMS0503	DRIVE GEAR SHAFT	[M]
345	RDG0183-L	DAMPER GEAR	[M]
346	RMF0188	CLAMPER SHEET	
347	RME0175	L CD OPEN SPRING	[M]
348	RME0176	R CD OPEN SPRING	[M]
349	RME0177	DISC LOCK SPRING	[M]
350	RME0181	UP PREVENTION SPRING(R	[M]
351	RAE0150Z	TRAVERSE UNIT	
351-1	SHGD113-1	FLOATING RUBBER (B)	
351-2	SHGD112	FLOATING RUBBER (A)	
351-3	SNSD38	SCREW	
352	RME0109	FLOATING SPRING A	
353	RME0142	FLOATING SPRING B	
354	RMK0293	TRAVERSE CHASSIS	[M]
355	RMS0123-1	FIXED PIN A	
356	XTN2+6G	SCREW	
357	XTV2+6G	SCREW	

■ CD Loading Unit Parts Location



The parts enclosed in the dotted boxes are supplied as an assembly. Therefore, they are not supplied separately except parts indicated with Ref. No.

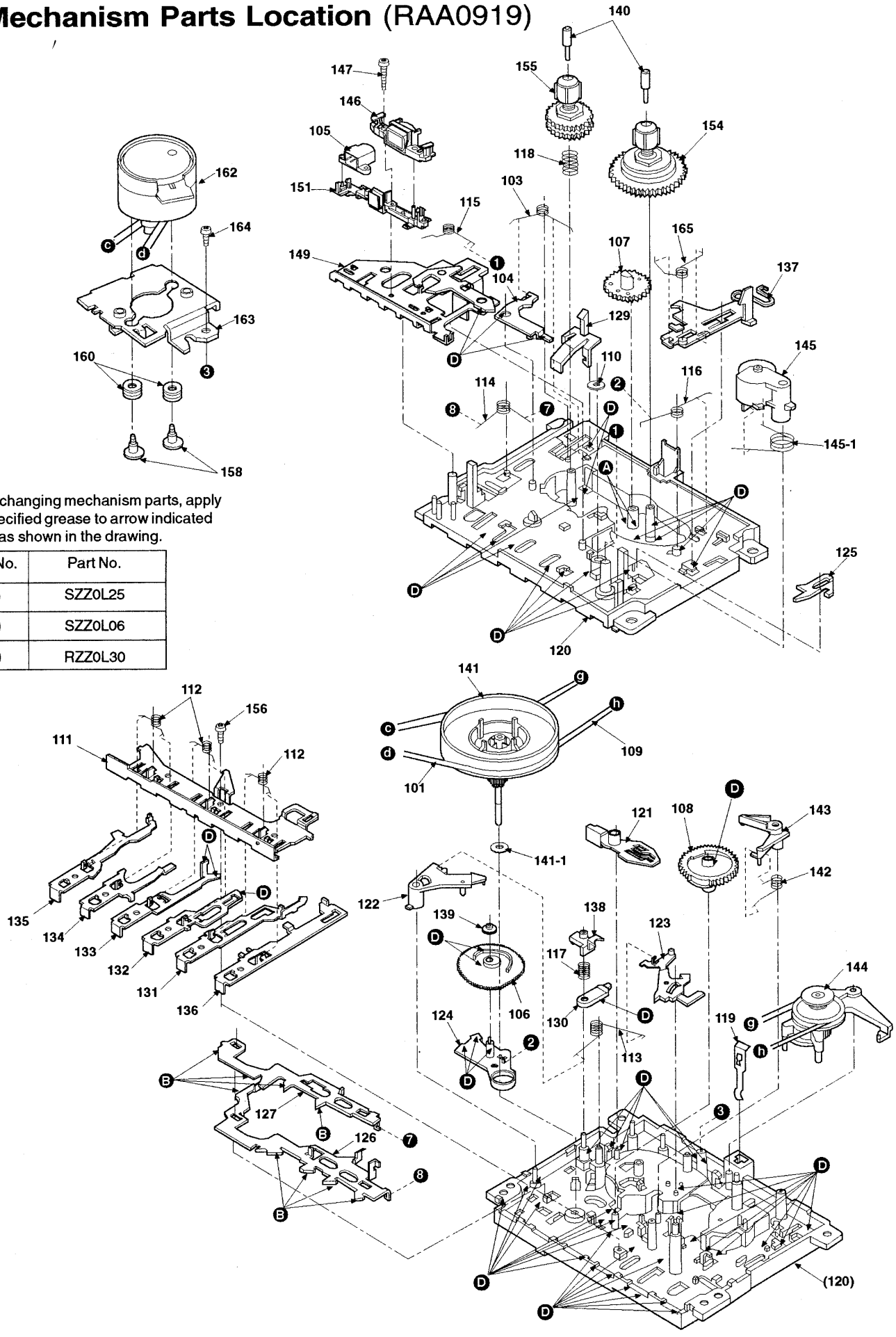
■ CD Loading Unit Parts Location



Note:
When changing the loading mechanism parts, apply the specified grease to the areas marked "xxx" as shown in the drawing.

Ref No.	Part No.
❶	RFKXPG671

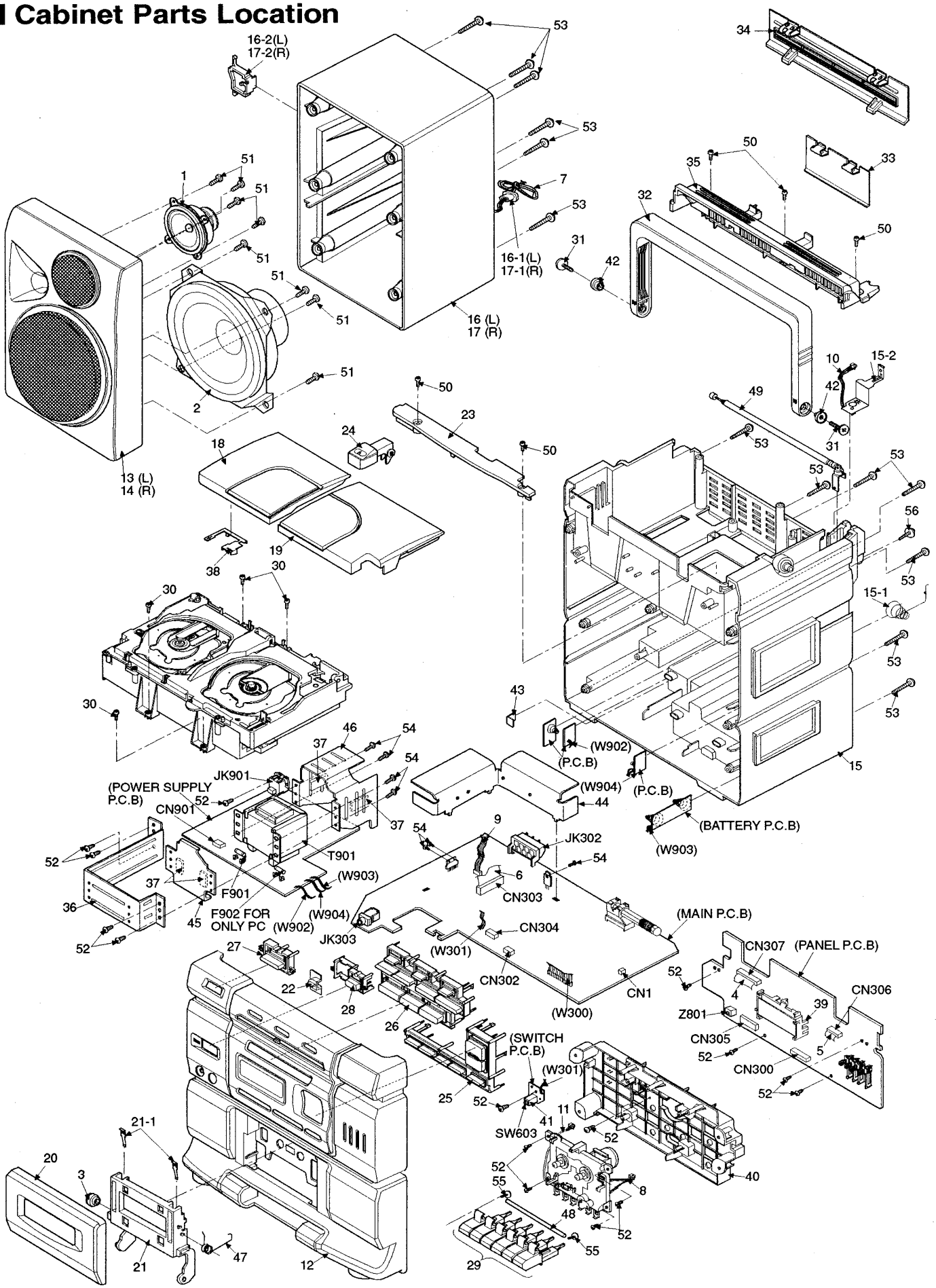
■ Mechanism Parts Location (RAA0919)



Note:
When changing mechanism parts, apply the specified grease to arrow indicated areas as shown in the drawing.

Ref No.	Part No.
Ⓐ	SZZ0L25
Ⓑ	SZZ0L06
Ⓓ	RZZ0L30

■ Cabinet Parts Location



■ Replacement Parts List

Notes: • Important safety notice :
Components identified by ⚠ mark have special characteristics important for safety.
Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors), etc. are used.
When replacing any of components, be sure to use only manufacturer's specified parts shown in the parts list.
• The parenthesized indications in the Remarks column specify the areas. (refer to the cover page for area.)
Parts without these indications can be used for all areas.
• [M] indicates in Remarks column parts that are supplied by **MESA**.
• The "(SF)" mark denotes the standard part.
• Remote Control Unit :
Supply period for three years from terminal of production.
• **Warning:** This product uses a laser diode. Refer to caution statements on page 2.

Ref No.	Part No.	Part Name & Description	Remarks
		CABINET AND CHASSIS	
1	EFBS10D49A3	TWEETER PLATE	[M]
2	RAS12P02-F	WOOFER	[M]
3	RDG5874ZB	DAMPER GEAR	[M]
4	REEX0019-1	PANEL TO CR5 WIRE	[M]
5	REEX0020	PANEL TO CR5 (MOTOR	[M]
6	REEX0021	MAIN TO PANEL WIRE	[M]
7	REXX0089	SPEAKER CORD	[M]
8	REXX0128	MOTOR WIRE	[M]
9	REXX0129-1	MAIN TO POWER 4P WIRE	[M]
10	REXX0134	ANTENNA PLATE WIRE	[M]
11	REXX0135	TAPE HEAD WIRE	[M]
12	RFKGDS750PK1	FRONT CABINET ASS'Y	[M]
13	RFKGDS750PK2	SP FRONT CAB ASS'Y(L	[M]
14	RFKGDS750PK3	SP FRONT CAB ASS'Y(R	[M]
15	RFKHDS750PCK	REAR CABINET ASS'Y	[M](PC)
15	RFKHDS750PK1	REAR CABINET ASS'Y	[M](P)
15-1	RJC91006	BATT. TERMINAL	[M]
15-2	RMAX0022	ANT. PLATE	[M]
16	RFKHDS750PK2	SP REAR CAB ASS'Y(L	[M]
16-1	RMGX0012-K	CORD BUSHING	[M]
16-2	RMR0408	LOCK LEVER (L)	[M]
17	RFKHDS750PK3	SP REAR CAB ASS'Y(R	[M]
17-1	RMGX0012-K	CORD BUSHING	[M]
17-2	RMR0407	LOCK LEVER (R)	[M]
18	RFKKDS750PK1	CD LID ASS'Y (L)	[M]
19	RFKKDS750PK2	CD LID ASS'Y (R)	[M]
20	RFKLDS750PK	CASS. LID ASS'Y	[M]
21	RFKLXDT610PK	CASS. HOLDER ASS'Y	[M]
21-1	RUS757ZAA	CASS. HALF SPRING	[M]
22	RGLX0005-Q	LED DISPERSE CAP	[M]
23	RGQ0180-K	CD MECHA COVER	[M]
24	RGU1289-H	CD EJECT BUTTON	[M]
25	RGUX0154-H1	VOL/PRESET BUTTON	[M]
26	RGUX0155-H	FUNCTION/CD BUTTON	[M]
27	RGUX0156-H	CD EJECT BUTTON	[M]
28	RGUX0157-H	POWER BUTTON	[M]
29	RGZX0022-H	MECHA BUTTON UNIT	[M]
30	RHD30048	CD CHANGER SCREW	[M]
31	RHD30062	HANDLE SCREW	[M]
32	RKH0032-H	HANDLE	[M]
33	RKK0035-H	BATTERY COVER (UM-3)	[M]
34	RKK2SZA-7	BATTERY COVER (UM-1)	[M]
35	RKQ0188-H	TOP CABINET	[M]
36	RMAX0021	TRANS. BRACKET	[M]
37	RMGX0013	RUBBER	[M]
38	RML0451	EMERGENCY EJ LEVER	[M]
39	RMNX0013-X	LCD HOLDER	[M]
40	RMQX0010-K	MECHA CHASSIS	[M]
41	RMR0897-K	LEAF SW COVER	[M]
42	RMR0900-K	HANDLE PIECE	[M]
43	RMVX0026	BATTERY CONPARTMENT	[M]
44	RMYX0020	HEAT SINK	[M]
45	RSCX0021	TRANS SHIELD PLATE 2	[M]
46	RSCX0032	TRANS SHIELD PLATE 1	[M]
47	RUS781ZA	EJECT SPRING	[M]
48	SUX102	MECHA BUTTON SHAFT	[M]
49	XEARR175ED-Y	ROD ANTENNA	
50	XTN3+12CFZ	CD MECHA COVER SCREW	
51	XTV3+10G	WOOFER SCREW	
52	XTV3+12G	PCB SCREW	
53	XTV3+20G	REAR CABINET SCREW	
54	XTV3+8F	IC SCREW	
55	XTWS3+8T	MECHA BUTTON SCREW	
56	XYN3+F8FY	ROD ANTENNA SCREW	
		INTEGRATED CIRCUITS	
IC1	TA7358FMATEL	IC, FM RF	
IC2	LM7001M-TE-L	IC, PLL	
IC3	LA1831MSATEL	IC, IF MPX	
IC301	AN7348K	IC, PRE-AMP	[M]
IC302	BA7755A	IC,AC BIAS SWITCHING	
IC303	TC4052BP	IC, SWITCHING	[M]
IC304	AN7332STAE1	IC, 5-BAND GEQ	[M]
IC305	M62414SP	IC, E. VOLUME	
IC306	AN7135	IC, POWER AMP	
IC307	S81350HG-T	IC, 5V REGULATOR	[M]
IC801	M38254M6125	IC, MICRO PROCESSOR	[M]
IC802	S-806G-Z	IC, RESET	[M]
		TRANSISTORS	
Q1	2SC2785FTA	TRANSISTOR	
Q2	2SC2785FTA	TRANSISTOR	
Q3	2SC2787FL1TA	TRANSISTOR	
Q4	2SC2787LTA	TRANSISTOR	
Q5	BN1L3NTA	TRANSISTOR	[M]
Q10	BA1A4MTA	TRANSISTOR	[M]
Q11	2SA1175FTA	TRANSISTOR	[M]
Q100	2SC2785FTA	TRANSISTOR	
Q101	2SC2785FTA	TRANSISTOR	
Q161	2SC2785FTA	TRANSISTOR	
Q200	2SC2785FTA	TRANSISTOR	
Q201	2SC2785FTA	TRANSISTOR	
Q261	2SC2785FTA	TRANSISTOR	
Q304	BN1A4MTA	TRANSISTOR	[M]
Q306	2SC2785FTA	TRANSISTOR	
Q307	2SC2001KTA	TRANSISTOR	
Q308	2SC1684STA	TRANSISTOR	
Q309	BN1A4MTA	TRANSISTOR	[M]
Q311	2SA564RTA	TRANSISTOR	
Q315	BN1L3NTA	TRANSISTOR	[M]
Q316	BA1L4MTA	TRANSISTOR	[M]
Q317	BN1L3ZTA	TRANSISTOR	[M]
Q318	2SB1566E	TRANSISTOR	[M] ⚠
Q319	2SC2785FTA	TRANSISTOR	
Q320	2SD592STA	TRANSISTOR	⚠
Q321	2SB621RTA	TRANSISTOR	
Q322	2SC2785FTA	TRANSISTOR	
Q323	2SC2785FTA	TRANSISTOR	⚠
Q324	BN1L3NTA	TRANSISTOR	[M]
Q390	BA1A3QTA	TRANSISTOR	[M]
Q391	2SD965RTA	TRANSISTOR	
Q801	2SC2785FTA	TRANSISTOR	
Q802	2SC2785FTA	TRANSISTOR	

Ref No.	Part No.	Part Name & Description	Remarks
Q803	2SC2785FTA	TRANSISTOR	
Q808	BA1L4MTA	TRANSISTOR	[M]
Q809	BN1L3NTA	TRANSISTOR	[M]
Q820	BA1L4MTA	TRANSISTOR	[M]
		DIODES	
D1	KV1360NT	DIODE	
D2	MTZJ7R5CTA	DIODE	
D3	KV1580NT	DIODE	
D4	KV1360NT	DIODE	
D5	MTZJ5R1CTA	DIODE	[M]
D6	1SS254TA	DIODE	
D303	MTZJ5R1BTA	DIODE	
D305	MTZJ9R1CTA	DIODE	
D306	1SS254TA	DIODE	
D307	1SS254TA	DIODE	
D308	1SS254TA	DIODE	
D309	1SS254TA	DIODE	
D310	MTZJ12BTA	DIODE	⚠
D312	1SS254TA	DIODE	
D313	1SS254TA	DIODE	
D315	MTZJ12BTA	DIODE	⚠
D316	MTZJ8R2CTA	DIODE	⚠
D317	1SS254TA	DIODE	
D318	1SS254TA	DIODE	
D320	1SS254TA	DIODE	
D321	MTZJ5R6BTA	DIODE	
D322	RVDMTZ11BTA	DIODE	
D801	1SS254TA	DIODE	
D802	1SS254TA	DIODE	
D804	1SS254TA	DIODE	
D805	1SS254TA	DIODE	
D806	SLR33VC70F08	DIODE	[M]
D812	1SS254TA	DIODE	
D813	1SS254TA	DIODE	
D901	RL154M11	DIODE	⚠
D902	RL154M11	DIODE	⚠
D903	RL154M11	DIODE	⚠
D904	RL154M11	DIODE	⚠
D905	1SS254TA	DIODE	
		VARIABLE RESISTORS	
VR301	EWAJSDV06G54	VR, XBS	[M]
VR302	EWAJQDV06G54	VR, GEQ SLIDE (330Hz)	[M]
VR303	EWAJQDV06G54	VR, GEQ SLIDE (1kHz)	[M]
VR304	EWAJQDV06G54	VR, GEQ SLIDE (10kHz)	[M]

Ref No.	Part No.	Part Name & Description	Remarks
		TRIMMER	
CT1	RCV10AF1T-S	TRIMMER CAPACITOR	
		SWITCHES	
S801	EVQ21405R	SW, TAPE	
S802	EVQ21405R	SW, TUNER	
S803	EVQ21405R	SW, CD	
S804	EVQ21405R	SW, PRESET –	
S805	EVQ21405R	SW, PRESER +	
S806	EVQ21405R	SW, TUNING –	
S807	EVQ21405R	SW, TUNING +	
S808	EVQ21405R	SW, MEMORY	
S809	EVQ21405R	SW, VOLUME –	
S810	EVQ21405R	SW, VOLUME +	
S811	EVQ21405R	SW, PLAY/PAUSE	
S812	EVQ21405R	SW, CD STOP	
S813	EVQ21405R	SW, FWD SKIP	
S814	EVQ21405R	SW, REV SKIP	
S815	EVQ21405R	SW, CD EJECT	
S816	EVQ21405R	SW, DISC 1	
S817	EVQ21405R	SW, DISC 2	
S818	EVQ21405R	SW, DISC 3	
S819	EVQ21405R	SW, POWER	
S901	RJJ1SM02-H	SW, AC IN (JK901)	⚠
SW601	RSH1A006-U	SW, MOTOR	[M]
SW603	RSH1A004-1	SW, REC. LEAF	[M]
		CONNECTORS	
CN1	RJP2G18ZA	2-PIN CONNECTOR	
CN300	RJS1A5212	12-PIN CONNECTOR	[M]
CN302	RJP4G18ZA	4-PIN CONNECTOR	
CN303	RJS1A6823	23P FPC CONNECTOR	
CN304	RJP4G4YA	4-PIN CONNECTOR	
CN305	RJS1A6723-Q	23P FFC CONNECTOR	
CN306	RJS1A6814	FF CONNECTOR	
CN307	RJS1A6823	23P FPC CONNECTOR	
CN901	RJP4G4YA	4 PIN CONNECTOR	
		COILS & TRANSFORMERS	
L2	RLV2C016-0Z	FM F ANT	[M]
L3	RL02B008-T	AM OSC COIL	
L5	RLQZP8R2JT-Y	COIL	
L6	RLQA101JT-D	RF CHOKE COIL	[M]
L8	RLQZP4R7KT-Y	COIL	

Ref No.	Part No.	Part Name & Description	Remarks
L9	RLQZPR47KT-Y	RF CHOKE COIL	
L221	RLQZP221KT-Y	INDUCTOR	
L301	RL09B17-T	AC BIAS OSC COIL	
L303	RLQZP2R2KT-Y	RF CHOKE COIL	
L304	RLQZP2R2KT-Y	RF CHOKE COIL	
L305	RLQZP2R2KT-Y	RF CHOKE COIL	
L306	RLQZP2R2KT-Y	RF CHOKE COIL	
L307	RLQZPR47KT-Y	RF CHOKE COIL	
L310	RLQZP2R2KT-Y	RF CHOKE COIL	
L801	RLQZPR47KT-Y	RF CHOKE COIL	
L803	RLQZP100KT-Y	RF CHOKE COIL	
L804	RLQZP100KT-Y	RF CHOKE COIL	
L811	RLQZB1R8KT-D	COIL	
L812	RLQZB1R8KT-D	COIL	
L813	RLQZP100KT-Y	RF CHOKE COIL	
T1	RLI2Z010-T	AM IFT	
T2	RLI4B014-T	FM DET COIL	
T901	RTP1U1C002-X	POWER TRANSFORMER	[M] ⚠
		COMPONENT COMBINATION	
Z1	RCRBMT002-H	BPF	
Z801	RCDGP1U58XD	REMO-CON SENSOR	
Z802	RSL5159-L	LCD	[M]
		CERAMIC FILTERS	
CF1	RLFFETWLA02D	FM IF CF	
CF2	RLFFETWLA02D	FM IF CF	
		OSCILLATORS	
X1	RSXZ456KM01	CERALOCK	
X2	RSXC7M20S04T	XTAL 7.2MHZ	
X801	EF0EN4194T4	4.194MHZ RESONATOR	[M]
X802	RSXD32K7L01	CRYSTAL RESONATOR	[M]
		FUSES	
F901	XBA1C30NBAL	FUSE	[M] ⚠
F902	XBA1C30NBAL	FUSE	[M](PC) ⚠
		FUSE HOLDERS	
FH901	RJR0169T	FUSE HOLDER	[M]
FH902	RJR0169T	FUSE HOLDER	[M]
FH903	RJR0169T	FUSE HOLDER	[M](PC)
FH904	RJR0169T	FUSE HOLDER	[M](PC)

Ref No.	Part No.	Part Name & Description	Remarks
		JACKS	
JK302	RJF1098ZA-H	JK, SPEAKER	[M]
JK303	RJJ37TK01-C	JK, HEADPHONE	[M]
JK901	RJJ1SM02-H	JK, AC INLET	⚠
		PACKING MATERIALS	
P1	RPGX0253	GIFT BOX	[M](P)
P1	RPGX0254	GIFT BOX	[M](PC)
P2	RPH3SZA	MIRAMAT SHEET	[M]
P3	RPNX0052	POLYFOAM	[M]
		ACCESSORIES	
A1	EUR643824	REMOTE CONTROL	[M]
A1-1	UR64EC1638-1	R. C. BATTERY COVER	[M]
A2	RFKSDS750PCK	INST. MANUAL ASS'Y	[M](PC)
A2	RQT3294-1P	INSTRUCTION MANUAL	[M](P)
A3	SJA172	AC CORD	(SF)⚠
		< LOADING MOTOR >	
		INTEGRATED CIRCUITS	
IC1	BA6418N	IC, MOTOR DRIVER	
		SWITCHES	
SW1	RSH1A005	SW, LEAF	
SW2	RSH1A032-U	SW, MECHA	
SW3	RSH1A032-U	SW, MECHA	
SW5	RSH1A032-U	SW, MECHA	
SW6	RSH1A032-U	SW, MECHA	
SW7-1	RSH1A032-U	SW, MECHA	
SW7-2	RSH1A032-U	SW, MECHA	
		CONNECTOR	
CN1	RJS1A6714	14PIN CONNECTOR	
		< SERVO P.C.B. >	
		INTEGRATED CIRCUITS	
IC701	AN8835SBE1	IC, SERVO AMP.	
IC702	MN662741RPA	IC, DIGITAL LSI	
IC703	AN8389SE1	IC, COIL/MOTOR DRIVE	

Ref No.	Part No.	Part Name & Description	Remarks
		TRANSISTOR	
Q701	2SB709S	TRANSISTOR	
		SWITCH	
S701	RSM0006-P	SW, RESET	
		CONNECTORS	
CN701	RJU035T016-1	16 PIN FFC CONNECTOR	
CN702	RJS1A6723-1Q	23 PIN FFC CONNECTOR	
		OSCILLATOR	
X701	RSXZ16M9M01T	CERAMIC OSC	

Ref No.	Part No.	Part Name & Description	Remarks

■ Resistors & Capacitors

Notes : • Important safety notice:
Components identified by ⚠ mark have special characteristics important for safety.
Furthermore, special parts which have purposes of fire-retardant (resistors), high-quality sound (capacitors), low-noise (resistors),etc. are used.
When replacing any of components, be sure to use only manufacturer's specified parts shown in the parts list.
• Capacitor values are in microfarad (μF) unless specified otherwise, P=Pico-farads (pF) F=Farads (F)
• Resistors values are in ohms, unless specified otherwise, 1k=1,000(OHM), 1M=1,000k(OHM)

Ref No.	Part No.	Values & Remarks
	RESISTORS	
R1	ERDS2TJ104T	100K 1/4W
R2	ERDS2TJ152T	1.5K 1/4W
R3	ERDS2TJ104T	100K 1/4W
R4	ERDS2TJ103T	10K 1/4W
R5	ERDS2TJ104T	100K 1/4W
R6	ERDS2TJ102T	1K 1/4W
R7	ERDS2TJ330T	33 1/4W
R8	ERDS2TJ332T	3.3K 1/4W
R9	ERDS2TJ102T	1K 1/4W
R10	ERDS2TJ101T	100 1/4W
R11	ERDS2TJ151T	150 1/4W
R12	ERDS2TJ103T	10K 1/4W
R13	ERDS2TJ104T	100K 1/4W
R14	ERDS2TJ471T	470 1/4W
R15	ERDS2TJ102T	1K 1/4W
R16	ERDS2TJ102T	1K 1/4W
R17	ERDS2TJ334T	330K 1/4W
R18	ERDS2TJ331T	330 1/4W
R20	ERDS2TJ103T	10K 1/4W
R21	ERDS2TJ103T	10K 1/4W
R22	ERDS2TJ334T	330K 1/4W
R23	ERDS2TJ392T	3.9K 1/4W
R24	ERDS2TJ103T	10K 1/4W
R25	ERDS2TJ103T	10K 1/4W
R26	ERDS2TJ103T	10K 1/4W
R27	ERDS2TJ103T	10K 1/4W
R29	ERDS2TJ331T	330 1/4W
R30	ERDS2TJ183T	18K 1/4W
R31	ERDS2TJ333T	33K 1/4W
R32	ERDS2TJ332T	3.3K 1/4W
R34	ERDS2TJ223T	22K 1/4W
R35	ERDS2TJ390T	39 1/4W
R36	ERDS2TJ104T	100K 1/4W
R37	ERDS2TJ153T	15K 1/4W
R38	ERDS2TJ104T	100K 1/4W
R39	ERDS2TJ223T	22K 1/4W
R40	ERDS2TJ221T	220 1/4W
R41	ERDS2TJ561T	560 1/4W
R48	ERDS2TJ390T	39 1/4W
R61	ERDS2TJ100T	10 1/4W
R81	ERDS2TJ470T	47 1/4W
R101	ERDS2TJ470T	47 1/4W
R102	ERDS2TJ183T	18K 1/4W
R104	ERDS2TJ822T	8.2K 1/4W
R105	ERDS2TJ333T	33K 1/4W
R106	ERDS2TJ153T	15K 1/4W
R107	ERDS2TJ392T	3.9K 1/4W
R121	ERDS2TJ103T	10K 1/4W
R122	ERDS2TJ682T	6.8K 1/4W
R123	ERDS2TJ473T	47K 1/4W
R125	ERDS2TJ273T	27K 1/4W
R126	ERDS2TJ472T	4.7K 1/4W
R130	ERDS2TJ682T	6.8K 1/4W
R132	ERDS2TJ152T	1.5K 1/4W
R136	ERDS2TJ155T	1.5M 1/4W
R137	ERDS2TJ562T	5.6K 1/4W
R138	ERDS2TJ122T	1.2K 1/4W
R160	ERDS2TJ333T	33K 1/4W
R161	ERDS2TJ392T	3.9K 1/4W
R162	ERDS2TJ823T	82K 1/4W
R163	ERDS2TJ2R7T	2.7 1/4W
R165	ERDS2TJ121T	120 1/4W
R201	ERDS2TJ470T	47 1/4W
R202	ERDS2TJ183T	18K 1/4W
R204	ERDS2TJ822T	8.2K 1/4W
R205	ERDS2TJ333T	33K 1/4W
R206	ERDS2TJ153T	15K 1/4W
R207	ERDS2TJ392T	3.9K 1/4W
R221	ERDS2TJ103T	10K 1/4W
R222	ERDS2TJ682T	6.8K 1/4W
R223	ERDS2TJ473T	47K 1/4W
R225	ERDS2TJ273T	27K 1/4W
R226	ERDS2TJ472T	4.7K 1/4W
R230	ERDS2TJ682T	6.8K 1/4W
R232	ERDS2TJ152T	1.5K 1/4W
R236	ERDS2TJ155T	1.5M 1/4W
R237	ERDS2TJ562T	5.6K 1/4W
R238	ERDS2TJ122T	1.2K 1/4W
R260	ERDS2TJ333T	33K 1/4W
R261	ERDS2TJ392T	3.9K 1/4W
R262	ERDS2TJ823T	82K 1/4W
R263	ERDS2TJ2R7T	2.7 1/4W
R265	ERDS2TJ121T	120 1/4W
R301	ERDS2TJ106T	10M 1/4W
R303	ERDS2TJ101T	100 1/4W
R304	ERDS2TJ223T	22K 1/4W
R305	ERDS2TJ103T	10K 1/4W
R306	ERDS2TJ333T	33K 1/4W
R307	ERDS2TJ123T	12K 1/4W
R308	ERDS2TJ274T	270K 1/4W
R309	ERDS2TJ273T	27K 1/4W
R311	ERDS2TJ392T	3.9K 1/4W
R313	ERDS2TJ102T	1K 1/4W
R314	ERDS2TJ221T	220 1/4W
R315	ERDS2TJ100T	10 1/4W
R316	ERDS2TJ823T	82K 1/4W
R317	ERDS2TJ681T	680 1/4W
R318	ERDS2TJ472T	4.7K 1/4W
R319	ERDS2TJ223T	22K 1/4W
R320	ERDS2TJ560T	56 1/4W
R321	ERDS2TJ563T	56K 1/4W
R330	ERDS2TJ102T	1K 1/4W
R331	ERDS2TJ681T	680 1/4W
R332	ERDS2TJ102T	1K 1/4W
R340	ERDS2TJ331T	330 1/4W
R341	ERDS2TJ680T	68 1/4W
R342	ERDS2TJ680T	68 1/4W
R343	ERDS2TJ100T	10 1/4W
R345	ERDS2TJ471T	470 1/4W
R346	ERDS2TJ221T	220 1/4W
R347	ERDS2TJ560T	56 1/4W
R359	ERDS2TJ563T	56K 1/4W
R361	ERDS2TJ102T	1K 1/4W
R364	ERDS2TJ472T	4.7K 1/4W
R365	ERDS2TJ122T	1.2K 1/4W
R366	ERDS2TJ1R0T	1 1/4W
R367	ERDS2TJ1R0T	1 1/4W
R368	ERDS2TJ103T	10K 1/4W
R369	ERDS2TJ101T	100 1/4W
R370	ERDS2TJ331T	330 1/4W
R371	ERDS2TJ681T	680 1/4W
R372	ERDS2TJ103T	10K 1/4W
R373	ERDS2TJ331T	330 1/4W
R374	ERDS2TJ122T	1.2K 1/4W
R375	ERDS2TJ472T	4.7K 1/4W
R376	ERDS2TJ220T	22 1/4W
R377	ERDS2TJ220T	22 1/4W
R378	ERDS2TJ220T	22 1/4W
R379	ERDS2TJ103T	10K 1/4W
R380	ERDS2TJ392T	3.9K 1/4W
R381	ERDS2TJ333T	33K 1/4W
R382	ERDS2TJ393T	39K 1/4W
R383	ERDS2TJ123T	12K 1/4W
R384	ERDS2TJ122T	1.2K 1/4W
R385	ERDS2TJ562T	5.6K 1/4W
R386	ERDS2TJ102T	1K 1/4W
R388	ERDS2TJ563T	56K 1/4W
R390	ERDS2TJ391T	390 1/4W
R391	ERDS2TJ473T	47K 1/4W
R393	ERDS2TJ2R7T	2.7 1/4W
R801	ERDS2TJ106T	10M 1/4W
R802	ERDS2TJ334T	330K 1/4W
R803	ERDS2TJ472T	4.7K 1/4W
R805	ERDS2TJ472T	4.7K 1/4W
R809	ERDS2TJ104T	100K 1/4W
R810	ERDS2TJ223T	22K 1/4W
R811	ERDS2TJ103T	10K 1/4W
R812	ERDS2TJ103T	10K 1/4W
R813	ERDS2TJ102T	1K 1/4W
R815	ERDS2TJ562T	5.6K 1/4W
R816	ERDS2TJ103T	10K 1/4W
R817	ERDS2TJ102T	1K 1/4W
R818	ERDS2TJ102T	1K 1/4W
R819	ERDS2TJ102T	1K 1/4W
R820	ERDS2TJ102T	1K 1/4W
R821	ERDS2TJ102T	1K 1/4W
R822	ERDS2TJ102T	1K 1/4W
R823	ERDS2TJ102T	1K 1/4W
R824	ERDS2TJ102T	1K 1/4W
R825	ERDS2TJ104T	100K 1/4W
R826	ERDS2TJ104T	100K 1/4W
R827	ERDS2TJ103T	10K 1/4W
R828	ERDS2TJ103T	10K 1/4W
R829	ERDS2TJ473T	47K 1/4W
R830	ERDS2TJ102T	1K 1/4W
R831	ERDS2TJ102T	1K 1/4W

Ref No.	Part No.	Values & Remarks
R832	ERDS2TJ102T	1K 1/4W
R833	ERDS2TJ333T	33K 1/4W
R835	ERDS2TJ333T	33K 1/4W
R836	ERDS2TJ104T	100K 1/4W
R837	ERDS2TJ104T	100K 1/4W
R838	ERDS2TJ104T	100K 1/4W
R839	ERDS2TJ104T	100K 1/4W
R840	ERDS2TJ103T	10K 1/4W
R841	ERDS2TJ102T	1K 1/4W
R842	ERDS2TJ102T	1K 1/4W
R843	ERDS2TJ102T	1K 1/4W
R844	ERDS2TJ392T	3.9K 1/4W
R845	ERDS2TJ392T	3.9K 1/4W
R846	ERDS2TJ392T	3.9K 1/4W
R847	ERDS2TJ392T	3.9K 1/4W
R848	ERDS2TJ392T	3.9K 1/4W
R849	ERDS2TJ473T	47K 1/4W
R850	ERDS2TJ473T	47K 1/4W
R851	ERDS2TJ102T	1K 1/4W
R852	ERDS2TJ102T	1K 1/4W
R853	ERDS2TJ122T	1.2K 1/4W
R854	ERDS2TJ182T	1.8K 1/4W
R855	ERDS2TJ222T	2.2K 1/4W
R856	ERDS2TJ272T	2.7K 1/4W
R857	ERDS2TJ472T	4.7K 1/4W
R858	ERDS2TJ682T	6.8K 1/4W
R859	ERDS2TJ103T	10K 1/4W
R861	ERDS2TJ102T	1K 1/4W
R862	ERDS2TJ102T	1K 1/4W
R863	ERDS2TJ122T	1.2K 1/4W
R864	ERDS2TJ182T	1.8K 1/4W
R865	ERDS2TJ222T	2.2K 1/4W
R866	ERDS2TJ272T	2.7K 1/4W
R867	ERDS2TJ472T	4.7K 1/4W
R868	ERDS2TJ102T	1K 1/4W
R869	ERDS2TJ102T	1K 1/4W
R871	ERDS2TJ222T	2.2K 1/4W
R872	ERDS2TJ681T	680 1/4W
R874	ERDS2TJ474T	470K 1/4W
R875	ERDS2TJ474T	470K 1/4W
R877	ERDS2TJ681T	680 1/4W
R881	ERDS2TJ223T	22K 1/4W
R882	ERDS2TJ563T	56K 1/4W
R885	ERDS2TJ563T	56K 1/4W
R887	ERDS2TJ104T	100K 1/4W
R888	ERDS2TJ104T	100K 1/4W
R889	ERDS2TJ102T	1K 1/4W
R891	ERDS2TJ392T	3.9K 1/4W
R892	ERDS2TJ681T	680 1/4W
R893	ERDS2TJ681T	680 1/4W
R894	ERDS2TJ681T	680 1/4W
R895	ERDS2TJ681T	680 1/4W
R896	ERDS2TJ681T	680 1/4W
R897	ERDS2TJ681T	680 1/4W
R898	ERDS2TJ681T	680 1/4W
R899	ERDS2TJ102T	1K 1/4W
R901	ERDS2TJ271T	270 1/4W
	CAPACITORS	
C1	ECBT1H4R7KC5	4.7P 50V
C2	ECBT1H102KB5	1000P 50V
C3	ECBT1C332MR5	3300P 16V
C4	ECEA1HN010SB	1 50V
C5	ECBT1C103MS5	0.01 16V
C6	ECBT1H102KB5	1000P 50V
C8	ECBT1H102KB5	1000P 50V
C9	ECEA1AU101B	100 10V
C10	ECBT1H6R8KC5	6.8P 50V
C12	ECBT1H102KB5	1000P 50V
C13	ECBT1H102KB5	1000P 50V
C14	ECBT1H180JC5	18P 50V
C15	ECBT1H4R7KC5	4.7P 50V
C16	ECBT1H6R8KC5	6.8P 50V
C17	ECBT1H2R2KC5	2.2P 50V
C18	ECFR1C473MR	0.047 16V
C19	ECBT1H680J5	68P 50V
C20	ECBT1H1R5MC5	1.5P 50V
C21	ECBT1H102KB5	1000P 50V
C22	ECBT1H102KB5	1000P 50V
C23	ECBT1H331KB5	330P 50V
C24	ECBT1C103MS5	0.01 16V
C25	ECBT1H102KB5	1000P 50V
C26	ECBT1H270J5	27P 50V
C27	ECBT1H300J5	30P 50V
C28	ECEA1AU101B	100 10V
C29	ECBT1H102KB5	1000P 50V
C31	ECBT1H471KB5	470P 50V
C32	ECBT1H180JC5	18P 50V
C35	ECBT1H101KB5	100P 50V
C36	ECBT1H102KB5	1000P 50V
C38	ECEA0JU101B	100 6.3V
C39	ECBT1H101KB5	100P 50V
C40	ECFR1C223MR	0.022 16V
C41	ECBT1H102KB5	1000P 50V
C42	ECEA1HKA010B	1 50V
C43	ECEA0JU101B	100 6.3V
C44	ECFR1C473MR	0.047 16V
C45	ECFR1C103MR	0.01 16V
C46	ECEA1CKA100B	10 16V
C47	ECBT1C332MR5	3300P 16V
C48	ECBT1H681KB5	680P 50V
C49	ECEA1HKA010B	1 50V
C50	ECFR1C223MR	0.022 16V
C51	ECFR1C223MR	0.022 16V
C52	ECEA1HKA2R2B	2.2 50V
C53	ECEA1HKA010B	1 50V
C54	ECEA1HKA010B	1 50V
C56	ECFR1C223MR	0.022 16V
C57	ECBT1H102KB5	1000P 50V
C58	ECBT1H331KB5	330P 50V
C59	ECBT1H471KB5	470P 50V
C61	ECBT1C103MS5	0.01 16V
C63	ECBT1H102KB5	1000P 50V
C67	ECBT1H102KB5	1000P 50V
C68	ECBT1H6R8KC5	6.8P 50V
C70	ECBT1H331KB5	330P 50V
C79	ECBT1C103MS5	0.01 16V
C91	ECBT1H102KB5	1000P 50V
C92	ECBT1C103MS5	0.01 16V
C93	ECBT1H102KB5	1000P 50V
C101	ECBT1H102KB5	1000P 50V
C103	ECEA1AU101B	100 10V
C104	ECFR1C183MR	0.018 16V
C105	ECEA1HU010B	1 50V
C107	ECBT1H102KB5	1000P 50V
C108	ECEA1HU010B	1 50V
C109	ECBT1H102KB5	1000P 50V
C110	ECBT1H102KB5	1000P 50V
C111	ECEA1HU010B	1 50V
C120	ECEA1HU010B	1 50V
C126	ECEA1CKA100B	10 16V
C128	ECEA1HKA010B	1 50V
C129	ECFR1C104MR	0.1 16V
C131	ECEA1HKA010B	1 50V
C132	ECBT1C103MS5	0.01 16V
C133	ECEA1HKA0R1B	0.1 50V
C134	ECBT1C682MR5	6800P 16V
C137	ECBT1C103MS5	0.01 16V
C140	ECEA1HKA010B	1 50V
C141	ECBT1H102KB5	1000P 50V
C142	ECEA1HKA010B	1 50V
C143	ECBT1H101KB5	100P 50V
C147	ECEA1HKA4R7B	4.7 50V
C150	ECBT1H102KB5	1000P 50V
C160	ECEA1HKA010B	1 50V
C161	ECEA1CKA101B	100 16V
C162	ECBT1H471KB5	470P 50V
C163	ECEA1AU470B	47 10V
C164	ECEA1AU102B	1000 10V
C165	ECFR1C104MR	0.1 16V
C201	ECBT1H102KB5	1000P 50V
C203	ECEA1AU101B	100 10V
C204	ECFR1C183MR	0.018 16V
C205	ECEA1HU010B	1 50V
C207	ECBT1H102KB5	1000P 50V
C208	ECEA1HU010B	1 50V
C209	ECBT1H102KB5	1000P 50V
C210	ECBT1H102KB5	1000P 50V
C211	ECEA1HU010B	1 50V
C220	ECEA1HU010B	1 50V
C226	ECEA1CKA100B	10 16V
C228	ECEA1HKA010B	1 50V
C229	ECFR1C104MR	0.1 16V
C230	ECBT1H101KB5	100P 50V
C231	ECEA1HKA010B	1 50V
C232	ECBT1C103MS5	0.01 16V
C233	ECEA1HKA0R1B	0.1 50V
C234	ECBT1C682MR5	6800P 16V
C237	ECBT1C103MS5	0.01 16V
C240	ECEA1HKA010B	1 50V
C241	ECBT1H102KB5	1000P 50V
C242	ECEA1HKA010B	1 50V
C243	ECBT1H101KB5	100P 50V
C247	ECEA1HKA4R7B	4.7 50V
C250	ECBT1H102KB5	1000P 50V
C260	ECEA1HKA010B	1 50V
C261	ECEA1CKA101B	100 16V
C262	ECBT1H471KB5	470P 50V
C263	ECEA1AU470B	47 10V
C264	ECEA1AU102B	1000 10V
C265	ECFR1C104MR	0.1 16V
C302	ECFR1C393MR	0.039 16V [M]
C303	ECEA1CU220B	22 16V
C304	ECEA1AU221B	220 10V
C305	ECEA1AU220B	22 10V
C306	ECEA1HU010B	1 50V
C307	ECEA1CU220B	22 16V
C308	ECBT1C103MS5	0.01 16V
C312	ECBT1C103MS5	0.01 16V
C313	ECQP2A151JZT	150P 100V
C314	ECQP1152JZ	1500P 100V

Ref No.	Part No.	Values & Remarks
C315	ECBT1C103MS5	0.01 16V
C316	ECBT1C103MS5	0.01 16V
C317	ECEA1AU101B	100 10V
C318	ECEA1CU100B	10 16V
C319	ECEA1CU100B	10 16V
C324	ECEA1HU3R3B	3.3 50V
C325	ECEA1CU220B	22 16V
C331	ECBT1H102KB5	1000P 50V
C333	ECBT1C103MS5	0.01 16V
C337	ECEA1CU100B	10 16V
C340	ECEA1AU471B	470 10V
C341	ECEA1AKA101B	100 10V
C342	ECEA1AKA101B	100 10V
C343	ECEA1CKA100B	10 16V
C344	ECEA1HKA2R2B	2.2 50V
C345	ECEA1CKA100B	10 16V
C348	ECEA1CKA101B	100 16V
C349	ECEA1CKA100B	10 16V
C350	ECEA1HKA2R2B	2.2 50V
C358	ECA1EM332BV	3300P 25V [M]
C360	ECEA1CU331B	330 16V
C361	ECEA1AU220B	22 10V
C362	ECEA1AU101B	100 10V
C365	ECEA1AU101B	100 10V
C366	ECBT1C103MS5	0.01 16V
C367	ECEA1CU100B	10 16V
C368	ECEA1AU101B	100 10V
C369	ECEA1CU100B	10 16V
C371	ECBT1H471KB5	470P 50V
C372	ECEA1CU101B	100 16V
C373	ECBT1H471KB5	470P 50V
C374	ECEA0JU101B	100 6.3V
C375	ECBT1C103MS5	0.01 16V
C377	ECEA1AU471B	470 10V
C801	ECBT1H180J5	18P 50V
C802	ECBT1H180J5	18P 50V
C803	ECBT1H680J5	68P 50V
C804	ECBT1H680J5	68P 50V
C805	ECBT1H680J5	68P 50V
C806	ECBT1H680J5	68P 50V
C807	ECEA1HKA010B	1 50V
C808	ECEA0JKA470B	47 6.3V
C816	ECEA1AU101B	100 10V
C817	ECEA0JKA221B	220 6.3V
C820	ECBT1H561KB5	560P 50V
C821	ECBT1H561KB5	560P 50V
C822	ECBT1H102KB5	1000P 50V
C823	ECBT1H102KB5	1000P 50V
C824	ECBT1H102KB5	1000P 50V
C826	ECBT1H331KB5	330P 50V
C828	ECBT1H331KB5	330P 50V
C831	ECBT1H331KB5	330P 50V
C832	ECBT1H331KB5	330P 50V
C833	ECBT1H331KB5	330P 50V
C834	ECBT1H331KB5	330P 50V
C835	ECBT1H331KB5	330P 50V
C836	ECBT1H331KB5	330P 50V
C837	ECBT1H331KB5	330P 50V
C838	ECBT1H331KB5	330P 50V
C840	ECBT1H331KB5	330P 50V
C842	ECBT1H102KB5	1000P 50V
C901	ECKR1H103ZF5	0.01 50V ⚠
C902	ECKR1H103ZF5	0.01 50V ⚠
C903	ECKR1H103ZF5	0.01 50V ⚠
C904	ECKR1H103ZF5	0.01 50V ⚠
C905	ECEA1CKA101B	100 16V
C906	ECBT1C103MS5	0.01 16V
	<SERVO P.C.B.>	
	RESISTORS	
R701	ERJ6GEYJ4R7V	4.7 1/10W
R703	ERJ6GEYJ823	82K 1/10W
R704	ERJ6GEYJ102V	1K 1/10W
R705	ERJ6GEYJ103V	10K 1/10W
R706	ERJ6GEYJ102V	1K 1/10W
R707	ERJ6GEYJ474V	470K 1/10W
R708	ERJ6GEYJ154V	150K 1/10W
R709	ERJ6GEYJ683V	68K 1/10W
R711	ERJ6GEYJ154V	150K 1/10W
R712	ERJ6GEYJ221V	220 1/10W
R717	ERJ6GEYJ102V	1K 1/10W
R718	ERJ6GEYJ102V	1K 1/10W
R719	ERJ6GEYJ102V	1K 1/10W
R720	ERJ6GEYJ102V	1K 1/10W
R721	ERJ6GEYJ101V	100 1/10W
R722	ERJ6GEYJ563V	56K 1/10W
R723	ERJ6GEYJ182V	1.8K 1/10W
R724	ERJ6GEYJ333V	33K 1/10W
R725	ERJ6GEYJ472V	4.7K 1/10W
R726	ERJ6GEYJ473V	47K 1/10W
R727	ERJ6GEYJ822V	8.2K 1/10W
R728	ERJ6GEYJ103V	10K 1/10W
R731	ERJ6GEYJ822V	8.2K 1/10W
R734	ERJ6GEYJ101V	100 1/10W
R735	ERJ6GEYJ101V	100 1/10W
R736	ERJ6GEYJ101V	100 1/10W
R738	ERJ6GEYJ223V	22K 1/10W
R741	ERJ6GEYJ562V	5.6K 1/10W
R742	ERJ6GEYJ562V	5.6K 1/10W
R743	ERJ6GEYJ562V	5.6K 1/10W
R744	ERJ6GEYJ103V	10K 1/10W
R745	ERJ6GEYJ155V	1.5M 1/10W
R748	ERJ6GEYJ182V	1.8K 1/10W
R749	ERJ6GEYJ682V	6.8K 1/10W
R750	ERJ6GEYJ473V	47K 1/10W
R751	ERJ6GEYJ473V	47K 1/10W
R752	ERJ8GEYJ220V	22 1/8W
R770	ERJ6GEYJ155V	1.5M 1/10W
R771	ERJ6GEYJ155V	1.5M 1/10W
R772	ERJ6GEYJ273V	27K 1/10W
	CAPACITORS	
C701	ECEA0JKA330I	33 6.3V
C702	ECUZNE104MBN	0.1 25V
C703	ECEA0JKA101I	100 6.3V
C704	ECUZNE104MBN	0.1 25V
C705	ECUZNE104MBN	0.1 25V
C706	ECUV1H272KBN	2700P 50V
C707	ECUV1E273KBN	0.027 25V
C708	ECUV1H472KBN	4700P 50V
C709	ECUV1C473KBN	0.047 16V
C710	ECUV1H182KBN	1800P 50V
C711	ECUZNE104MBN	0.1 25V
C712	ECUZNE104MBN	0.1 25V
C713	ECUV1C104MBM	0.1 16V
C714	ECEA0JKA101I	100 6.3V
C716	ECUV1H561KBN	560P 50V
C717	ECUZNE104MBN	0.1 25V
C718	ECUV1C224KBN	0.22 16V
C721	ECUV1H150JCN	15P 50V
C722	ECUV1H150JCN	15P 50V
C723	ECEA1AKA221I	220 10V
C724	ECUV1C104MBM	0.1 16V
C725	ECUV1H102KBN	1000P 50V
C726	ECUV1H102KBN	1000P 50V
C727	ECEA1HPK010I	1 50V
C728	ECEA1HPK010I	1 50V
C730	ECUZNE104MBN	0.1 25V
C731	ECEA0JKA221I	220 6.3V
C732	ECEA0JKA221I	220 6.3V
C733	ECUZNE104MBN	0.1 25V
C734	ECEA1AKA221I	220 10V
C735	ECUZNE104MBN	0.1 25V
C736	ECUZNE104MBN	0.1 25V
C737	ECUZNE104MBN	0.1 25V
C738	ECUV1C154KBN	0.15 16V
C742	ECUV1E273KBN	0.027 25V
C743	ECUZNE104MBN	0.1 25V
C744	ECUV1E822KBN	8200P 25V
C745	ECUV1C473MBN	0.047 16V
C747	ECUV1H222KBN	2200P 50V
C748	ECUV1H471KBM	470P 50V
C749	ECUZNE104MBN	0.1 25V
C751	ECUZNE104MBN	0.1 25V
C752	ECUV1H152KBN	1500P 50V
C753	ECUV1H471KBM	470P 50V
C754	ECUV1H471KBN	470P 50V
	CHIP JUMPERS	
RJ701	ERJ8GEY0R00A	0 1/8W
RJ702	ERJ8GEY0R00A	0 1/8W
RJ703	ERJ8GEY0R00A	0 1/8W
RJ704	ERJ8GEY0R00A	0 1/8W
RJ707	ERJ8GEY0R00A	0 1/8W
RJ709	ERJ8GEY0R00A	0 1/8W
RJ714	ERJ8GEY0R00A	0 1/8W
RJ715	ERJ8GEY0R00A	0 1/8W
RJ716	ERJ8GEY0R00A	0 1/8W
RJ717	ERJ8GEY0R00A	0 1/8W
RJ721	ERJ8GEY0R00A	0 1/8W
RJ722	ERJ8GEY0R00A	0 1/8W
RJ723	ERJ8GEY0R00A	0 1/8W
RJ724	ERJ8GEY0R00A	0 1/8W
RJ725	ERJ8GEY0R00A	0 1/8W
RJ726	ERJ8GEY0R00A	0 1/8W
RJ727	ERJ8GEY0R00A	0 1/8W
RJ728	ERJ8GEY0R00A	0 1/8W
RJ729	ERJ8GEY0R00A	0 1/8W
RJ730	ERJ8GEY0R00A	0 1/8W
	TEST JUMPERS	
TJ701	EYF8CU	TEST JUMPER
TJ702	EYF8CU	TEST JUMPER
	<LOADING MOTOR>	
	CAPACITORS	
C1	ECA1AKF820E	82 10V

MESA Printed in Singapore
G960303800 X/J/R/C